 School of *Architecture+Design*

Undergraduate Handbook

2004

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History

"The KMUTT's school of architecture (SoA&D) was established, in 1994, to provide a complete program of studies in English Language. The integrated and interdependent study program supports the concept of art and man, science as discovery, which together leads to use and development of appropriate technologies to meet the challenges of a dynamic 21st century global society. The program is designed to meet the needs of changing society in Thailand. Graduates will also be prepared to study and work internationally. The current three bachelor degree programs are architecture, Interior Architecture and Industrial Design (Communication Design in 2003). The school aims to educate and train students to obtain a broader vision in the professions of Architecture, Interior Architecture and Industrial Design. And also to promote research and the development of applied technologies in art and design disciplines. The school also focuses on rendering technical services of design, consultation, advisory management and training to serve government departments and related private sectors.

"In the year 2002 the school's name has been changed from School of Architecture to School of Architecture and Design (SoA&D) to fulfill our achievement of being an international design school and to welcome our new program, Communication Design Program, in the year 2003.

Philosophy

To produce graduates with well-grounded knowledge in design, capability of blending art and technology together, environmental concern, competence in the language for global communication, and international recognition.

Vision

- To be the center of architecture and design study in the region.
- To be a key factor in social development.

Objective

- To educate and train students to obtain a bachelor degree in: Architecture, Interior Architecture and Industrial Design.
- To promote research and the development of applied technologies in the various art and design disciplines.
- To render technical services of design, consultation, advisory management and training to serve government, industry and private sectors.



Program

- All degree courses are based on the integration and interdependent of art and science and technology. Integrated studies include the quality of life, environmental energy conservation, computer-aided design, responsible use of resources, all with support facilities, which include a computer center and workshops.
- All subjects and courses are conducted in English by qualified local and foreign staff.
- All students are required to undertake an intensive English course on entering the program. A TOEFL test score of at least 500 is required for graduation.
- All degree programs train students in project management, the use of appropriate materials and technologies with workshop experience. In addition, they emphasize professional proficiency in international architecture, supported by written and spoken English so that the graduates will be able to communicate and work worldwide.

5 Years Structure

Name of Program

Bachelor of Architecture Program in Architecture

Degree

Full name: Bachelor of Architecture, English Program

Abbreviate name: B. Arch., English Program

The Objectives of the Program

- To produce graduates with the knowledge and skills required to serve society and their country as a whole, with a strong awareness of the environment and the quality of life.
- To produce graduates with a high level of responsibility who can contribute greatly in different areas of architecture, research, and development.
- To produce graduates with a strong sense of moral ethics.

Program Duration

Completion of required credits for full-time program are to be made within a period of 10 semesters or 5 academic years, but not to exceed 20 semesters or 10 academic years.

Curriculum

Total Program Credits **180 credits**

Curriculum Components

<i>General Education Courses</i>	31 credits
• Social Science Courses	7 credits
• Humanities Courses	6 credits
• Language Courses	9 credits
• Science and Mathematics Courses	9 credits

<i>Major Courses</i>	143 credits
• Architectural Fundamentals Courses	14 credits
• History of Art and Architecture Courses	9 credits
• Architectural Design Principle & Architectural Design Courses	39 credits
• Architectural Supporting Courses	12 credits
• Materials and Construction Courses	6 credits
• Building Structure Courses	12 credits
• Environmental Technology Courses	12 credits
• Professional Practice Courses	10 credits
• Thesis and Other Courses	17 credits
• Elective Courses	not less than 12 credits

Free Elective Courses **not less than 6credits**

Architecture Program

Architectural Program

Year 1

First Semester		
Code	Course	Credit*
ARC 115	Sketch and Rendering	3(1-4-6)
ARC 117	Design Fundamentals I	4(1-6-8)
ARC 123	History of Art and Design	3(3-0-6)
LNG 102	Fundamental English II	3(2-2-6)
LNG 103	Fundamental English III	3(2-2-6)
MTH 105	Mathematics I	3(3-0-6)
Total		19(13-12-38)
Second Semester		
Code	Course	Credit*
ARC 116	Technical Drawing	3(1-4-6)
ARC 118	Design Fundamentals II	4(1-6-8)
ARC 171	Static and Mechanics of Materials	3(3-0-6)
LNG 104	Content-based Language Learning	3(2-2-6)
MTH 106	Mathematics II	3(3-0-6)
PHY 106	General Physics	3(3-0-6)
Total		19(12-14-38)
Summer Semester		
SSC 101	Physical Education	1(0-2-2)
Total		1(0-2-2)

Year 2

First Semester		
Code	Course	Credit*
ARC 223	History of Architecture I	3(3-0-6)
ARC 231	Arch. Design Principles I	3(3-0-6)
ARC 241	Architectural Design I	4(0-8-8)
ARC 261	Building Materials and Constructions I	3(1-4-6)
ARC 272	Structural Analysis	3(3-0-6)
SSC 162	Society and Culture	3(3-0-6)
Total		19(12-14-38)
Second Semester		
Code	Course	Credit*
ARC 224	History of Architecture II	3(3-0-6)
ARC 232	Arch. Design Principles II	3(3-0-6)
ARC 242	Architectural Design II	4(0-8-8)
ARC 253	Interior Design	3(1-4-6)
ARC 261	Building Materials and Constructions II	3(1-4-6)
ARC 281	Environmental Technology I	3(3-0-6)
Total		19(11-16-38)

Year 3

First Semester		
Code	Course	Credit*
ARC 343	Architectural Design III	4(0-8-8)
ARC 354	Site Planning	3(2-2-6)
ARC 373	Structural Design and Construction I	3(2-2-6)
ARC 382	Environmental Technology II	3(3-0-6)
ARC 301	Research Methodology	3(1-4-6)
XXX xxx	Elective	3(x-x-x)
Total		19(x-x-x)
Second Semester		
Code	Course	Credit*
ARC 359	Design Psychology	3(3-0-6)
ARC 333	Arch. Project Programming	3(2-2-6)
ARC 344	Architectural Design IV	4(0-8-8)
ARC 355	Landscape Architecture	3(2-2-6)
ARC 374	Structural Design and Construction II	3(2-2-6)
ARC 383	Environmental Technology III	3(3-0-6)
Total		19(12-14-38)

Year 4

First Semester		
Code	Course	Credit*
ARC 445	Architectural Design V	4(0-8-8)
ARC 456	Urban Planning	3(2-2-6)
ARC 485	Energy Management for Buildings	3(3-0-6)
SSC xxx	Humanities Elective	3(3-0-6)
XXX xxx	Elective	3(x-x-x)
XXX xxx	Free Elective	3(x-x-x)
Total		19(x-x-x)
Summer Semester		
ARC 491	Architectural Training	2(S/U)
Total		2(S/U)
Second Semester		
Code	Course	Credit*
ARC 446	Architectural Design VI	5(0-8-8)
ARC 492	Building Cost Estimation	2(1-2-4)
ARC 493	Construction Management	3(3-0-6)
SSC xxx	Social Science Elective	3(3-0-6)
XXX xxx	Elective	3(x-x-x)
XXX xxx	Free Elective	3(x-x-x)
Total		19(x-x-x)

Year 5

First Semester		
Code	Course	Credit*
ARC 547	Architectural Design VII	5(0-8-8)
ARC 594	Professional Practice and Legal Aspects	3(3-0-6)
ARC 501	Thesis Preparation	3(1-4-6)
XXX xxx	Elective	3(x-x-x)
Total		14(x-x-x)
Second Semester		
ARC 502	Thesis	9(0-18-18)
ARC 503	Architectural Seminar	2(0-4-4)
Total		11(0-22-22)

Course Description

General Education Courses 31 Credits

Social Sciences Courses 7 Credits

Required Courses 4 Credits

SSC 101 Physical Education 1 (0-2-2)
Prerequisite: none

Studies and practices the sports for health, principles of exercise, care and prevention of athletic injuries, nutrition and sports science including basics skills in sports with sport rules and strategy from popular sports. The students can choose one of several sports available, according to their own interest. This course will create good health, personality and sportsmanship in the learners as well as develop the awareness in etiquette of playing, sport rules fair play and being good spectators.

SSC 162 Society and Culture 3 (3-0-6)
Prerequisite: none

Studies include the examination of the relationships between various disciplines in social sciences; the nature of mankind; human society; socialization; social and cultural change; and social crisis.

Elective Courses	3 Credits	
SSC xxx Social Science Elective	3 (3-0-6)	
Remarks: Select from the following		
SSC 241 Principles of Political Science	3 (3-0-6)	
Prerequisite: none		
Study scope and content of political science, nature of state, type of governing, political doctrine. Study political concept and ideology which influence government structure and political change including political behavior and international political problem.		
SSC 251 Principles of Jurisprudence	3 (3-0-6)	
Prerequisite: none		
a study of the development of law, the meaning and importance of traditional and written law and the establishment, enforcement, and annulment of law. This study will include the general principles of civil law and criminal law.		
SSC 261 Human and Society	3 (3-0-6)	
Prerequisite: none		
Study human behavior and human relationship, emphasizes with the others. Being with the human nature, human environments which cause human drive. Then study social organization, social structures, cultural reaction, and social symbols, (which are the basic of communication), social systems and event which are met in everyday life, for examples. education, economics and political. To understand the objectives and social mechanism of social system, which is the basics knowledge of criticism present social problems. That will be criticized in the class by the method of social study.		
SSC 271 Managerial Accounting	3 (3-0-6)	
Prerequisite: none		
Studies include basic accounting concepts and principles; forms of financial statements; and analysis of financial statements. Income measurements, valuation problems, analysis of sources and use of fund. Comparison between cost accounting and financial accounting. Types of budgets, illustration of master budget, sale forecasting.		
SSC 272 Production Cost	3 (3-0-6)	
Prerequisite: none		
Basic concepts in marketing, market and market segmentation, classification of goods and services, marketing functions, institution and channels, market and environments, the changing market, consumer's buying behavior, and factors effecting consumer demand.		
SSC 281 Economics	3 (3-0-6)	
Prerequisite: none		
Studies include basic facts, principles, and problems of economics; determination of pricing analysis, national income allocation of resources. The monetary and banking cisterns, problems of labor economic instability; depression, inflation, and economic development.		
SSC 333 Industrial and Organizational Psychology	3 (3-0-6)	
Prerequisite: none		
Studies include the foundations of industrial and organizational psychology; individual differences and work behavior, motivation, attitudes, job satisfaction, communication, leadership, solving problems and making decisions, work stress, job analysis, recruitment and selection, psychological testing, and human resource development.		
SSC 334 Psychology of Adjustment	3 (3-0-6)	
Prerequisite: none		
This is study of basic concepts of psychology to apply for living in a changing society. It will include personality, motivation, emotions, stress, body and health, self-concept, creating relationships and intimacy, marriage and mutual self-disclosure, sexuality, work and leisure. Personal control and decision making, psychological disorders and therapy, adulthood and aging transition, and bereavement and death.		
SSC 335 Managerial Psychology	3 (3-0-6)	
Prerequisite: none		
The study of the fundamental concepts of psychology and management of human behavior in an organization which will include psychological factors and their effect on human working behavior such as attitude, communication, social influences and motivation. Moreover, it will include organizational behavior modification, management of conflict, leadership and organizational effectiveness.		
SSC 351 Labor Law	3 (3-0-6)	
Prerequisite: none		
A study of principles of Thai law, its development, general condition of employment, labor relation, labor welfare, social security law and other related labor laws.		
SSC 371 Marketing	3 (3-0-6)	
Prerequisite: none		
Studies include basic concepts of marketing and market segmentation; classification of goods and services; marketing functions; institutions; markets and their environment, changing markets; consumer buying behavior; factors effecting consumer demand.		
SSC 372 Personnel Management	3 (3-0-6)	
Prerequisite: none		
The study of the concept of personnel management, the policy of personnel management, roles and functions of the manager and personnel manager and personnel management process from job analysis, personnel planning, recruiting and selection, training and development, performance appraisal at career development, compensation, maintenance of employee's security and safety, including personnel information systems.		

Humanities Courses 6 Credits

Required Course 3 Credits

ARC 359 Design Psychology 3 (3-0-6)
Prerequisite: none

Studies include the review of fundamental concepts of psychology; psychological factors and their impact on human behavior; processes of human behavior, perception, cognition and affects and conceptual systems; spatial behavior; psychological principles in color and form design.

Elective Course 3 Credits

SSC xxx Humanities Elective 3 (3-0-6)

Remark: Select from the followings

SSC 211 Philosophy 3 (3-0-6)
Prerequisite: none

Studies include an investigation of the principles of philosophy; various branches of philosophy; basic problems in philosophy will be discussed. i.e. metaphysics, epistemology, ethics, reality, and change.

SSC 212 Introduction to Ethics 3 (3-0-6)

Prerequisite: none

Studies include the examination of important theories of ethics and their application to contemporary moral issues such as abortion, environmental problems, professional behavior and appropriate censures.

SSC 213 Introduction to logic 3 (3-0-6)

Prerequisite: none

Studies include an investigation into the laws of reasoning, nature of inductive and deductive methods of reasoning; principles of valid and invalid reasoning.

SSC 221 History of Civilization 3 (3-0-6)

Prerequisite: none

The study of human behavior by scientific methods, including the biological foundations of behavior, sensation and perception, learning, memory, cognition human development, personality, abnormal behavior, and health psychology.

SSC 231 General Psychology 3 (3-0-6)

Prerequisite: none

'The study of human behavior by scientific methods, including the biological foundations of behavior, sensation and perception, learning, memory, cognition, human development personality, abnormal behavior, and health psychology.

SSC 311 Buddhist Philosophy 3 (3-0-6)

Prerequisite: none

Study about previous doctrine Pra Wate, and then , study Buddhist Philosophy, theory of ethics of relationship between individual and society.

SSC 331 Human Relations 3 (3-0-6)

Prerequisite: none

Studies include the development of background information for the specific studies of psychology and sociology; explorations into a better understanding of

attitudes and human behavior in business and industry; effects of training; individual differences on job performance; training and selecting of supervisors; employer and employee communication.

Language Courses 9 Credits**LNG 102 Fundamental English II 3(2-2-6)**

Prerequisite: none

This course builds on LNG 101 by providing further strategy training, but also places a strong emphasis on the cognitive skills of the students. A wide range of cognitive skills are covered including logical, creative and critical thinking. These cognitive skills are dealt with through a series of English-medium tasks, which include simulations, e-mail correspondence and Internet projects. Students' language difficulties are dealt with as they arise thus addressing students' real needs. Covering all four skills, the content of the course includes occupational as well as academic English. To enhance autonomous learning skills, students are encouraged to learn independently using the Self – Access Learning Centre as well as e-mail, Internet and library resources.

LNG 103 Fundamental English III 3(2-2-6)

Prerequisite: LNG 102

While also covering language and thinking skills, the main focus of this course is to prepare students to be able to fully participate and learn in an English-medium environment. In addition, the course enhances students' ability to take control over their future language development through meta cognitive strategy training, including the abilities to set learning goals, to make realistic and practicable plans to reach the goals, and to implement the plans through self-access and other forms of independent learning. To help students benefit most from an English-language environment, the course aims to change their attitudes towards language and learning by building their confidence, enhancing risk-taking attitudes and motivating them to develop further by themselves. The course takes the form of a series of large-scale tasks, including simulations, self-access based tasks, and international e-mail and Internet based interactive oral projects.

LNG 104 Content-based Language Learning I 3(2-2-6)

Prerequisite : LNG 103

This course takes the form of a large-scale project, and thus simulates the stages undertaken in preparing and presenting research, from finding references to writing a final draft and giving an oral presentation. The course uses authentic content prepared in cooperation with staff from other faculties and in-depth content support is provided in addition to language teaching and learner training. The course therefore acts as a simulation of a content course from another faculty, but by providing language support and guidance, prepares students for learning in an English-medium academic environment.

Science and Mathematic Courses**9 Credits**

Science 3 Credits

PHY 106 General Physics 3 (3-0-6)

Prerequisite: none

Studies include equilibrium, force and motion, size, strength and sealing; conservation of energy; conservation of momentum; pressure of air and water; heat and temperature vibrations; and waves, sound and hearing.

Mathematics 6 Credits

MTH 105 Mathematics I 3 (3-0-6)

Prerequisite: none

Studies include concepts and application of limits, continuity, derivative and integral mathematics; logarithmic and exponential functions; functions of several variables and partial derivatives.

MTH 106 Mathematics II 3 (3-0-6)

Prerequisite: MTH 105 Mathematics I

Studies include solid analytic geometry; vector on three dimensions; methods of linear algebra for solving systems of linear equations; series of numbers; series of functions; differentiation and integration of series; Taylor's series.

Major Courses 143 Credits**Architectural Fundamental Courses****14 Credits****ARC 115 Sketching and Rendering 3 (1-4-6)**

Prerequisite: none

Studies include theories and techniques of free-hand drawing by using various media; i.e. pencils, pens, brushes, and other equipment including the computer with emphasis on visualization and expression. Students practice drawing various scale visual objects; design products, interior and exterior architecture etc. The introduction and practical exercises on computer uses are added.

ARC 116 Technical Drawing 3 (1-4-6)

Prerequisite: none

Studies include the introduction to drafting tools, concepts of technical drawing and techniques. i.e. geometry and architectural graphics-lettering, projections, assemblies, perspective. Isometrics, shade & shadow component details, specification and dimension in the area of architecture, interior architecture and industrial design. The introduction and practical exercises on computer aided drafting are added.

ARC 117 Design Fundamentals I 4 (1-6-8)

Prerequisite: none

This studio course provides an introduction to the elements, principles, and techniques that underline and inform the analysis, creation, and evaluation of visual organizations and are crucial to the process and product of form-making. This course consist of

1. An overview of selected topics pertaining to the perception of design fundamentals

2. The study of design fundamentals entailing point, linear, two-and three-dimensional elements or combinations thereof.

3. The study of color and its influence on design fundamentals

A variety of studio exercises are used to apply the knowledge and skills acquired throughout the semester.

ARC 118 Design Fundamentals II 4 (1-6-8)

Prerequisite: ARC 117 Design Fundamentals I

This course introduces the students to a working understanding of the factors and issues that underlie the translation of human needs and purpose into significant form. Course objectives are:

1. To establish a base of design concepts and knowledge with an introduction to references and ideas to foster independent inquiry.

2. To develop skills in environmental analysis, concept formation and certain aspects of design.

3. To familiarize students with images of architecture, interior architecture, and industrial design and design drawn from various times and cultures.

Specific topics include the basic elements, attributes and organizational principles of form and their relationship to design intention. Related topics include framework for design, design methods, site analysis and design, human factors and environmental factors.

History of Art and Architecture**9 Credits****ARC 123 History of Art and Design 3 (3-0-6)**

Prerequisite: none

The study of the development of man from Prehistoric times to the modern diversity of industrial needs using the widening range of materials and technologies to satisfy the identified user needs in contemporary society. To include paradigm shifts in design philosophy. The study covers the impact of global industrial to Asian.

ARC 223 History of Architecture I 3 (3-0-6)

Prerequisite: none

Studies include all aspects of architectural developments by European civilizations from prerecorded periods to the third quarter of the 20 century. Concerns regarding Interior Architectural developments are addressed as an integral part of the lectures and exercises.

ARC 224 History of Architecture II 3 (3-0-6)

Prerequisite: ARC 223 History of Architecture I

Oriental architecture history from Indian, China, Japan and South East Asia, by comparative study with Thai Architecture from past to present. Focus on architecture and Interior Space.

Architectural Design Principle and Design Courses **39 Credits**

ARC 231 Architectural Design Principle I 3 (3-0-6)

Prerequisite: none

Studies include concepts and environmental modifications which influence creativity in architectural design; design criteria which involves composition and relationships between form and space.

ARC 232 Architectural Design Principles II 3 (3-0-6)

Prerequisite: ARC 231 Architectural Design Principles I

Studies include the analysis of contemporary architectural design concepts and philosophy from works of leading architects; impacts of economics and technology on construction materials in contemporary architectural design; application of modern construction materials and techniques in the designs of modern architecture.

ARC 333 Architectural Project Programming 3 (2-2-6)

Prerequisite: none

Project feasibility study in some aspects; financial analysis, data collection, data analysis and data processing Architectural project programming principles.

ARC 241 Architectural Design I 4 (0-8-8)

Prerequisite: ARC 118 Design Fundamentals II

Architectural exploration concentrating on spatial design, space planning, architecture in response to climatic factors, basic construction materials and methods and cultural interpretation.

ARC 242 Architectural Design II 4 (0-8-8)

Prerequisite: ARC 231, ARC 241, ARC 261 or instructor's consent

Continuation of ARC 241 with increasing complexity. Students are expected to be able to propose systematically architectural schematics based on research and critical thinking. Depth of understanding in term of construction materials and methods together with a sense of structural stability are required. Thinking have to be in reference with architectural design principles. Students must show comprehensive presentation with clarity both graphically and verbally. Students are also encouraged to use computer during their design process and presentation in mixture with conventional methods.

ARC 343 Architectural Design III 4 (0-8-8)

Prerequisite: ARC 232, ARC 242 or instructor's consent

Exploration of architectural solutions to server conceptual determination without sacrificing building integrity. Architecture is put into contexts of natural and/or built environment, human and culture, construction and structural technology. Concentration is on finding creative solutions appropriate for set of

problems adhered by programs. Student must show comprehensive presentation with clarity both graphically and verbally. Students are also encouraged to use computer during their design process and presentation in mixture with conventional methods.

ARC 344 Architectural Design IV 4 (0-8-8)

Prerequisite: ARC 343 or instructor's consent

Continuation of ARC 343 with Greater complexity. It is required that further that architectural aspects be explored. Those such as building equipment are taken into consideration. Selective details are looked into as an essential aspect of architectural design. Additionally, students are considering about how architecture can have both positive and negative impact on other things such as environment, culture, consumption of energy, etc. Students must show comprehensive presentation with clarity both graphically and verbally Students are also encouraged to use computer during their design process and presentation in mixture with inventive and conventional methods.

ARC 445 Architectural Design V 4 (0-8-8)

Prerequisite: ARC 344, ARC 281, ARC 382, ARC 383 or instructor's consent

Design steps up to a large scale project with great complexity. Concentration is on integration of different factors related to architecture especially structure, environmental technology and energy conservation. Students have to show a high level of understanding in the process of integrating technology with architectural design. Essential figures have to be shown where necessary using computer software together with hand calculation. Students are yet required to take care of different realms they experience in previous design studios: design fundamentals, functions and construction, and architectural concepts. Computer become a natural tool involving in every design process. High level of communication skills is expected.

ARC 446 Architectural Design VI 5 (0-10-10)

Prerequisite: ARC 445, ARC 281, ARC 382, ARC 383 or instructor's consent

Continuation of ARC 445. Design steps up to a complex project relation to urban or community. Concentration is on integration of different factors related to architecture especially structure, environmental technology and energy conservation. Student have to show a high level of understanding in the process of integrating technology with architectural design. Essential figures have to be shown where necessary using computer software together with hand calculation. Students are yet required to take care of different realms they experience in previous design studios: design fundamentals. Functions and construction, and architectural concepts. Computer becomes a natural tool involving in every design process. High level of communication skills is expected. Students develop clearer their own perspective on architecture

ARC 547 Architectural Design VII 5 (0-10-10)

Prerequisite: ARC 446 or instructor's consent

This studio is the result of the structure of the curriculum which allows room for individuals' interests to be developed. Students propose their own areas of study within the context of assigned projects. Evaluation is based on comprehensibility of the design solution.

Architectural Supporting Courses 9 Credits**ARC 253 Interior Design 3 (1-4-6)**

Prerequisite: none

Study and practice how to arrange furniture and equipment according to functions of each building. Including other components for interior design such as materials, surfaces colours light, shadow, electrical systems, air-conditioning system, safety system, etc., which are applicable to architecture work.

ARC 354 Site Planning 3 (2-2-6)

Prerequisite: none

Study principles of landscape design in architectural works: elements of site concerning layout planning and site analysis such as, inclination, mixture of plants, irrigation etc.; influences and problems concerning climate and environment.

ARC 355 Landscape Architecture 3 (2-2-6)

Prerequisite: none

Study of natural environment in landscaping with relation to site planning and the site's constructions, emphasis on urban environment, geographical characteristics, and ecological system.

ARC 456 Urban Planning 3 (2-2-6)

Prerequisite: none

Study of evaluation of human settlement and physical change in urbanization, Problems and problem-solving of physical environmental conditions in urban of city.

Materials and Construction Courses 6 Credits**ARC 261 Building Materials and Construction I 3 (1-4-6)**

Prerequisite: none

Studies include building materials and construction methods from natural resources such as wood, brick, stone and others; studies of physical and chemical properties, scientific composition of these materials and their applications in building construction; and the experimental drawings of building components, I. E. foundations, columns, beams, floors, roofs, stairs, etc.

ARC 262 Building Materials and Construction II 3 (1-4-6)

Prerequisite: ARC 261 Building Materials and Construction I

Studies include building materials such as, glass, leakage protectors, damp proof materials, and insulators, installing techniques of other necessary

components in buildings. Basics of surveys are introduced The experimental drawing of the position and dimension of components in detail are included.

Building Structure Course 12 Credits**ARC 171 Statics and Mechanics of Materials 3 (3-0-6)**

Prerequisite: none

This is an applied course using architectural and industrial design examples; force and moment systems, equilibrium, plane stress and strain, deformation and stiffness, buckling of members and columns.

ARC 272 Structural Analysis 3 (3-0-6)

Prerequisite: ARC 171 Statics and Mechanics of Materials

Introduction to structural analysis: reactions, shears moments in statically determinate structures; influence lines, graphical determination of reactions and forces in trusses; structure subjected to moving loads; determination of deflections by analytical and graphical methods, approximate method of structural analysis; long-span structures.

ARC 373 Structural Design and Construction I 3 (2-2-6)

Prerequisite: ARC 272 Structural Analysis

Design : Properties of structural wood and steel; design criteria ; design of tension members ; design of compression members ; design of beams ; design of combined bending and axial forces;
Construction : Wood and steel ; fabrication ; design of connectors. Construction and structural systems of wood and steel structure to server architectural purposes. Influences of structure over building construction.

ARC 374 Structural Design and Construction II 3 (2-2-6)

Prerequisite: ARC 272 Structural Analysis

Design : Properties of concrete and reinforced steel ; behavior of building under compression, tension, tension, twisting, and other forces together ; design of beams, slabs, columns, foundations, and ground beams, by the use of force unit.
Construction : Concrete framework ; concrete columns ; concrete beams and girders ; concrete slabs ; concrete framing ; concrete rigid frames, arches, and domes ; concrete shell structures
Influences of this kind of structure over construction works.

Environmental Technology Courses 12 Credits**ARC 281 Environmental Technology I 3 (3-0-6)**

Prerequisite: PHY 106 or instructor's consent

Studies include the factors for creating and utilizing a comfortable state of living in contrast to the exterior environment, their influence and relationship to the building type, and including the building influences of heat absorption, heat protection, air conditioning and ventilation system

ARC 382 Environmental Technology II 3 (3-0-6)

Prerequisite: PHY 106 or instructor's consent

Studies include influences of light on architectural work both exterior; emphasis is on both artificial and natural light; variables influencing lighting; lighting systems; lighting efficiency; lighting in different types of buildings; different constraints of lighting concerning atmosphere, visibility and the management of the building users, including power/electricity distribution systems in building; electrical circuit and equipment; safety and utility needs of the building users.

ARC 383 Environmental III 3 (3-0-6)

Prerequisite: PHY 106 or instructor's consent

Studies include acoustics and noise control for architectural work, both inside and outside the building, including broadcasting, noise reflection and absorption, noise control and protection, sound quality, and the influence of sound on architectural design, as well as infrastructure, sanitary system, circulation, communication, and safety systems. Studies also include integration of all engineering systems of building-illumination, electricity, sanitary, air conditioning, ventilation, communication, safety, and intelligent building systems for planning and application to architectural design. This subject emphasizes on architecture which is influenced from the blending of design, environmental technology, and building engineering.

ARC 485 Energy Management for Buildings 3 (3-0-6)

Prerequisite: ARC 281 or instructor's consent

Studies include the global process and energy management in building, including the factors which affect the energy in building and the control of these factors, the whole day illumination and air conditioning installation management, the need for end use energy, the state of energy consumption in heat and absorption of building surface, energy testing, energy saving, and the alternatives of energy management.

Professional Practice Course 10 Credits**ARC 491 Architectural Training 2 (S/U)**

Prerequisite: ARC 446

Actual Architectural Training to be carried out within during a summer session for continuous period of at least 6 weeks.

ARC 492 Building Cost Estimation 2 (1-2-4)

Prerequisite: none

Studies of cost estimation according to material prices, wages, instrument, and management costs in various type of buildings. Studies of other factors that may influence initial costs such as construction contract liability, special specification contact liability, special specifications, and labor.

ARC 493 Construction Management 3 (3-0-6)

Prerequisite: none

Studies include introduction into the business aspects of construction management; organizational and

financial concerns during entry into business and continued operation; interior architects, architects, engineers and builders relationships; organization of their work; construction planning and control by critical path method; contracts and tendering; control tools; construction laws and regulations; safety in construction.

ARC 594 Professional Practice and Legal Aspects 3 (3-0-6)

Prerequisite: none

There are three main issues as follows:

1. Professional ethics which include codes of ethics and conducts, architect's responsibilities, the evolution of the profession and today's career options etc.
2. Laws involving architectural practice; namely building controls and professional controls. Others may involve zoning environmental protection, and energy conservation laws, etc Liability in faulty design will also involve tort and criminal law.
3. Architectural practice including forming organizational management teams, design contracts, work process, preparation of bidding, contract and construction documents, roles and responsibilities of an architect as a designer in construction project.

Thesis 17 Credits**ARC 301 Research Methods 3 (1-4-6)**

Prerequisite: none

Principles and exercises of research methodologies.

ARC 501 Thesis Preparation 3 (1-4-6)

Prerequisite: ARC 446

Studies include the setting up of the project; search for available data; collection and data analysis and synthesis. Conclusions have to be made beforehand in written proposal papers and preparation of flow charts for thesis work.

ARC 502 Thesis 9 (0-18-18)

Prerequisite: ARC 501

Studies include the design of a building type or the specific group of buildings by analysis of data available from ARC 501 and the knowledge from the previous courses.

ARC 503 Architectural Seminar 2 (0-4-4)

Prerequisite: none

Discussion topics are based on architectural works and problems in construction. Students are expected to know and understand basic concepts and design philosophies reasonable and relevant to construction systems.

*****Elective Courses Not less than 12 Credits****ARC 329 Analysis of Contemporary Architecture 3 (2-2-6)**

Prerequisite: none

Study of development in all aspects involving in the emergence of contemporary architecture systematically. Analyze and collect all findings using

different types of media such as drawings, media such as drawing, models or digital media. In each semester, architecture of a countries is selected to be working models.

ARC357 Information Technology for Architects and Designers 3 (2-2-6)

Prerequisite: none

This course focuses on information technology that can be applied to use in architectural and design works. The course covers the topics of management of computer in architectural and design office, data management, applied internet and modern communication. It also covers the current technology that will be applied in architecture and design works. Students will have practical exercises and experiments with applying information technology in their work.

ARC 365 Concrete Technology 2 (1-2-4)

Prerequisite: none

Qualification and properties of cement ; aggregates and additive concrete mix design and quality control, properties of concrete, type of concrete and admixtures, testing of concrete and ingredients.

ARC 434 Thai Vernacular Architecture 3 (3-0-6)

Prerequisite: none

Studies of regional features of buildings in Thailand. Undertake an analysis on derivation of building forms relating to cultural and traditional values, local materials and physical environment in order to develop an awareness in the values of folk arts and traditional design work in Thailand.

ARC 455 Computer in Architectural Design 3 (1-4-6)

Prerequisite: none

The use of computer in architectural design, exhibition, communication and searching of various methodologies that could be applied in the design process by emphasizing in the creation of architectural space.

ARC 457 Housing 3 (2-2-6)

Prerequisite: none

Study standards and classifications of residential units. Study the procedure, regulations and guiding concept in providing living accommodation for the community, including the elderly. Study problems affecting peoples' accommodation both in urban and rural areas. Instruments; building codes, occupancy standards, and zoning by-laws are examined.

ARC 458 Plants in Architecture 3 (3-0-6)

Prerequisite: none

Studies include a variety of plants in architectural settings used as interior and exterior decoration of building emphasizing on their biological nature, environmental effect, reproduction methods, maintenance and appropriate utilization.

ARC 459 Music Appreciation 3 (3-0-6)

Prerequisite: none

Studies characteristics of classical musical instruments, musical development of pattern and

form, guidelines for appreciation of classical music from both Eastern and Western cultures.

ARC 461 Building Materials and Construction IV 3 (2-2-6)

Prerequisite: none

To study the principles in making the architectural detailing documents and detailing schedule of various building types. Preparation of the architectural accessories and presentation technique.

ARC 464 Supervision of Construction 3 (3-0-6)

Prerequisite: none

The course intended to be a guide for those who are new to the business of supervising construction works. Supervision is the link between design and construction, making the transition from the theoretical to the practical by attempting to demonstrate how standards of design and specification developed on a design office are on the site.

ARC 497 Introduction to Facilities Management 3 (3-0-6)

Prerequisite: none

Facilities Management includes different aspects of professional fields for example space planning, basic programming, project management, cost estimation and control, work planning, design process administration, maintenance and management.

ARC 553 Independent Study 3 (1-4-6)

Prerequisite: none

Special study adjusted to individual needs.

Free Electives Not less than 6 Credits



Interior Architecture Program

5 Years Structure

Interior Architecture Program

School of Architecture, KMUTT

Name of Program

Bachelor of Architecture Program in Interior Architecture

Degree

Full name: Bachelor of Architecture, (Interior Architecture), English Program

Abbreviate name: B. Arch. (Int. Arch.), English Program

The Objectives of the Program

- To graduate students into the professional world of practice and further studies. Continuing developments within the profession can only occur by providing a foundation knowledge in design, science, and technology to young professionals whilst simultaneously, stimulate their thinking process and self-direction in developing design innovation.
- To provide the most comprehensive education through the English language program, and to develop an aspiring graduate to be thoroughly trained and adaptable to an international market, as well as be prepared to contribute to the culture, welfare and reputation of Thailand.
- To promote research and development leading to the integration of technological applications in interior architecture, and to render technical services on design, consultation, advisory management, and training to government departments, and related private sector organization.

Program Duration

Completion of required credits for full-time program are to be made within a period of 10 semesters or 5 academic years, but not to exceed 20 semesters or 10 academic years.

Curriculum

Total Program Credits **181 credits**

Curriculum Components

<i>General Education Courses</i>	31 credits
• Social Science Courses	7 credits
• Humanities Courses	6 credits
• Language Courses	9 credits
• Science and Mathematics Courses	9 credits
<i>Major Courses</i>	144 credits
• Interior Architectural Fundamental Courses	28 credits
• History of Art and Architecture Courses	9 credits

- Architectural and Interior Architectural Design Principle Courses 40 credits
 - Interior Architectural Supporting Courses 9 credits
 - Material and Construction Courses 9 credits
 - Building Structure Courses 3 credits
 - Environmental Technology Courses 12 credits
 - Professional Practice Courses 11 credits
 - Thesis and Other Courses 14 credits
 - Elective Courses not less than 9 credits
- Free Elective Courses not less than 6 credits*

Interior Architecture Program

Year 1

First Semester		
Code	Course	Credit*
ARC 115	Sketch and Rendering	3(1-4-6)
ARC 117	Design Fundamentals I	4(1-6-8)
ARC 123	History of Art and Design	3(3-0-6)
LNG 102	Fundamental English II	3(2-2-6)
LNG 103	Fundamental English III	3(2-2-6)
MTH 105	Mathematics I	3(3-0-6)
Total		19(13-12-38)
Summer Semester		
SSC 101	Physical Education	1(0-2-2)
Total		1(0-2-2)
Second Semester		
Code	Course	Credit*
ARC 116	Technical Drawing	3(1-4-6)
ARC 118	Design Fundamentals II	4(1-6-8)
ARC 171	Static and Mechanics of Materials	3(3-0-6)
LNG 104	Content-based Language Learning	3(2-2-6)
MTH 106	Mathematics II	3(3-0-6)
PHY 106	General Physics	3(3-0-6)
Total		19(12-14-38)

Year 2

First Semester		
ARC 223	History of Architecture I	3(3-0-6)
ARC 231	Architectural Design Principles I	3(3-0-6)
ARC 241	Architectural Design I	4(0-8-8)
ARC 261	Building Materials and Construction I	3(1-4-6)
INA 214	Interior Drawing and Rendering	3(1-4-6)
SSC 162	Society and Culture	3(3-0-6)
Total		19(10-18-38)
Second Semester		
ARC 224	History of Architecture II	3(3-0-6)
ARC 232	Arch. Design Principles II	3(3-0-6)
ARC 281	Environmental Technology I	3(3-0-6)
INA 211	Color Fundamentals and Application	3(2-2-6)
INA 241	Interior Architectural Design I	4(1-6-8)
ARC 262	Building Materials and Construction II	3(1-4-6)
Total		19(13-12-38)

Year 3

First Semester		
ARC 382	Environmental Technology II	3(3-0-6)
INA 311	Ergonomics/Safety and Human Disabilities	3(3-0-6)
INA 313	Space Planning	3(2-2-6)
INA 333	Interior Arch. Project Program.	3(2-2-6)
INA 342	Interior Arch. Design II	4(0-8-8)
INA 363	Interior Arch. Materials, Construction and Detailing	3(1-4-6)
Total		19(11-16-38)

Year 3 (cont.)

Second Semester		
ARC 359	Design Psychology	3(3-0-6)
ARC 383	Environmental Technology III	3(3-0-6)
INA 343	Interior Arch. Design III	4(0-8-8)
INA 351	Furniture Design & Workshop	3(1-4-6)
INA 352	Lighting Design	3(2-2-6)
XXX xxx	Elective	3(x-x-x)
Total		19(x-x-x)

Year 4

First Semester		
INA 434	Design Strategies and Critical Thinking	3(2-2-6)
INA 444	Interior Arch. Design IV	4(0-8-8)
INA 452	Exhibition Design	3(1-4-6)
ARC 485	Energy Management for Buildings	3(3-0-6)
SSC xxx	Humanities Elective	3(3-0-6)
XXX xxx	Free Elective	3(x-x-x)
Total		19(x-x-x)
Summer Semester		
INA 491	Interior Arch. Training	2(S/U)
Total		2(S/U)
Second Semester		
ARC 493	Construction Management	3(3-0-6)
INA 411	Advanced Presentation Methods	2(1-2-4)
INA 445	Interior Arch. Design V	4(0-8-8)
INA 494	Interior Specifications and Cost Estimation	3(2-2-6)
SSC xxx	Social Science Elective	3(3-0-6)
XXX xxx	Elective	3(x-x-x)
Total		18(x-x-x)

Year 5

First Semester		
ARC 594	Professional Practice and Legal Aspects	3(3-0-6)
INA 501	Thesis Preparation	3(1-4-6)
INA 546	Interior Arch. Design VI	4(0-8-8)
XXX xxx	Elective	3(x-x-x)
XXX xxx	Free Elective	3(x-x-x)
Total		16(x-x-x)
Second Semester		
INA 503	Interior Arch. Seminars	2(0-4-4)
INA 504	Thesis	9(0-18-18)
Total		11(0-22-22)

*Credit = Credit Hour (Lecture-Practice-Self Study)

Course Description

General Education Courses 31 Credits

Social Sciences Courses 7 Credits

Required Courses 4 Credits

SSC 101 Physical Education 1 (0-2-2)
Prerequisite: none

Studies and practices the sports for health, principles of exercise, care and prevention of athletic injuries, nutrition and sports science including basics skills in sports with sport rules and strategy from popular sports. The students can choose one of several sports available, according to their own interest. This course will create good health, personality and sportsmanship in the learners as well as develop the awareness in etiquette of playing, sport rules fair play and being good spectators.

SSC 162 Society and Culture 3 (3-0-6)
Prerequisite: none

Studies include the examination of the relationships between various disciplines in social sciences; the nature of mankind; human society; socialization; social and cultural change; and social crisis.

Elective Courses 3 Credits

SSC xxx Social Science Elective 3 (3-0-6)

Remarks: Select from the following

SSC 241 Principles of Political Science 3 (3-0-6)
Prerequisite: none

Study scope and content of political science, nature of state, type of governing, political doctrine. Study political concept and ideology which influence government structure and political change including political behavior and international political problem.

SSC 251 Principles of Jurisprudence 3 (3-0-6)
Prerequisite: none

a study of the development of law, the meaning and importance of traditional and written law and the establishment, enforcement, and annulment of law. This study will include the general principles of civil law and criminal law.

SSC 261 Human and Society 3 (3-0-6)
Prerequisite: none

Study human behavior and human relationship, emphasizes with the others. Being with the human nature, human environments which cause human drive. Then study social organization, social structures, cultural reaction, and social symbols, (which are the basic of communication), social systems and event which are met in everyday life, for examples. education, economics and political. To understand the objectives and social mechanism of social system, which is the basics knowledge of criticism present social problems. That will be criticized in the class by the method of social study.

SSC 271 Managerial Accounting 3 (3-0-6)
 Prerequisite: none

Studies include basic accounting concepts and principles; forms of financial statements; and analysis of financial statements. Income measurements, valuation problems, analysis of sources and use of fund. Comparison between cost accounting and financial accounting. Types of budgets, illustration of master budget, sale forecasting.

SSC 272 Production Cost 3 (3-0-6)
 Prerequisite: none

Basic concepts in marketing, market and market segmentation, classification of goods and services, marketing functions, institution and channels, market and environments, the changing market, consumer's buying behavior, and factors effecting consumer demand.

SSC 281 Economics 3 (3-0-6)
 Prerequisite: none

Studies include basic facts, principles, and problems of economics; determination of pricing analysis, national income allocation of resources. The monetary and banking cisterns, problems of labor economic instability; depression, inflation, and economic development.

SSC 333 Industrial and Organizational Psychology 3 (3-0-6)
 Prerequisite: none

Studies include the foundations of industrial and organizational psychology; individual differences and work behavior, motivation, attitudes, job satisfaction, communication, leadership, solving problems and making decisions, work stress, job analysis, recruitment and selection, psychological testing, and human resource development.

SSC 334 Psychology of Adjustment 3 (3-0-6)
 Prerequisite: none

This is study of basic concepts of psychology to apply for living in a changing society. It will include personality, motivation, emotions, stress, body and health, self-concept, creating relationships and intimacy, marriage and mutual self-disclosure, sexuality, work and leisure. Personal control and decision making, psychological disorders and therapy, adulthood and aging transition, and bereavement and death.

SSC 335 Managerial Psychology 3 (3-0-6)
 Prerequisite: none

The study of the fundamental concepts of psychology and management of human behavior in an organization which will include psychological factors and their effect on human working behavior such as attitude, communication, social influences and motivation. Moreover, it will include organizational behavior modification, management of conflict, leadership and organizational effectiveness.

SSC 351 Labour Law 3 (3-0-6)
 Prerequisite: none

A study of principles of Thai law, its development, general condition of employment, labor relation, labor welfare, social security law and other related labor laws.

SSC 371 Marketing 3 (3-0-6)
 Prerequisite: none

Studies include basic concepts of marketing and market segmentation; classification of goods and services; marketing functions; institutions; markets and their environment, changing markets; consumer buying behavior; factors effecting consumer demand.

SSC 372 Personnel Management 3 (3-0-6)
 Prerequisite: none

The study of the concept of personnel management, the policy of personnel management, roles and functions of the manager and personnel manager and personnel management process from job analysis, personnel planning, recruiting and selection, training and development, performance appraisal at career development, compensation, maintenance of employee's security and safety, including personnel information systems.

Humanities Courses 6 Credits

Required Course 3 Credits

ARC 359 Design Psychology 3 (3-0-6)
 Prerequisite: none

Studies include the review of fundamental concepts of psychology; psychological factors and their impact on human behavior; processes of human behavior, perception, cognition and affects and conceptual systems; spatial behavior; psychological principles in color and form design.

Elective Courses 3 Credits

SSC xxx Humanities Elective 3 (3-0-6)

Remark: Select from the followings

SSC 211 Philosophy 3 (3-0-6)
 Prerequisite: none

Studies include an investigation of the principles of philosophy; various branches of philosophy; basic problems in philosophy will be discussed. i.e. metaphysics, epistemology, ethics, reality, and change.

SSC 212 Introduction to Ethics 3 (3-0-6)
 Prerequisite: none

Studies include the examination of important theories of ethics and their application to contemporary moral issues such as abortion, environmental problems, professional behavior and appropriate censures.

SSC 213 Introduction to logic 3 (3-0-6)
 Prerequisite: none

Studies include an investigation into the laws of reasoning, nature of inductive and deductive methods of reasoning; principles of valid and invalid reasoning.

SSC 221 History of Civilization 3 (3-0-6)

Prerequisite: none

The study of human behavior by scientific methods, including the biological foundations of behavior, sensation and perception, learning, memory, cognition human development, personality, abnormal behavior, and health psychology.

SSC 231 General Psychology 3 (3-0-6)

Prerequisite: none

'The study of human behavior by scientific methods, including the biological foundations of behavior, sensation and perception, learning, memory, cognition, human development personality, abnormal behavior, and health psychology.

SSC 311 Buddhist Philosophy 3 (3-0-6)

Prerequisite: none

Study about previous doctrine Pra Wate, and then , study Buddhist Philosophy, theory of ethics of relationship between individual and society.

SSC 331 Human Relations 3 (3-0-6)

Prerequisite: none

Studies include the development of background information for the specific studies of psychology and sociology; explorations into a better understanding of attitudes and human behavior in business and industry; effects of training; individual differences on job performance; training and selecting of supervisors; employer and employee communication.

Language Courses 9 Credits**LNG 102 Fundamental English II 3(2-2-6)**

Prerequisite: none

This course builds on LNG 101 by providing further strategy training, but also places a strong emphasis on the cognitive skills of the students. A wide range of cognitive skills are covered including logical, creative and critical thinking. These cognitive skills are dealt with through a series of English-medium tasks, which include simulations, e-mail correspondence and Internet projects. Students' language difficulties are dealt with as they arise thus addressing students' real needs. Covering all four skills, the content of the course includes occupational as well as academic English. To enhance autonomous learning skills, students are encouraged to learn independently using the Self – Access Learning Centre as well as e-mail, Internet and library resources.

LNG 103 Fundamental English III 3(2-2-6)

Prerequisite: LNG 102

While also covering language and thinking skills, the main focus of this course is to prepare students to be able to fully participate and learn in an English-medium environment. In addition, the course enhances students' ability to take control over their future language development through metacognitive strategy training, including the abilities to set learning goals, to make realistic and practicable plans to reach the goals, and to implement the plans through self-access and other forms of independent learning. To help students benefit most from an English-language

environment, the course aims to change their attitudes towards language and learning by building their confidence, enhancing risk-taking attitudes and motivating them to develop further by themselves. The course takes the form of a series of large-scale tasks, including simulations, self-access based tasks, and international e-mail and Internet based interactive oral projects.

LNG 104 Content-based Language Learning I 3(2-2-6)

Prerequisite : LNG 103

This course takes the form of a large-scale project, and thus simulates the stages undertaken in preparing and presenting research, from finding references to writing a final draft and giving an oral presentation. The course uses authentic content prepared in cooperation with staff from other faculties and in-depth content support is provided in addition to language teaching and learner training. The course therefore acts as a simulation of a content course from another faculty, but by providing language support and guidance, prepares students for learning in an English-medium academic environment.

Science and Mathematic Courses**9 Credits**

Science 3 Credits

PHY 106 General Physics 3 (3-0-6)

Prerequisite: none

Studies include equilibrium, force and motion, size, strength and sealing; conservation of energy; conservation of momentum; pressure of air and water; heat and temperature vibrations; and waves, sound and hearing.

Mathematics 6 Credits

MTH 105 Mathematics I 3 (3-0-6)

Prerequisite: none

Studies include concepts and application of limits, continuity, derivative and integral mathematics; logarithmic and exponential functions; functions of several variables and partial derivatives.

MTH 106 Mathematics II 3 (3-0-6)

Prerequisite: MTH 105 Mathematics I

Studies include solid analytic geometry; vector on three dimensions; methods of linear algebra for solving systems of linear equations; series of numbers; series of functions; differentiation and integration of series; Taylor's series.

Major Courses 144 Credits**Interior Architectural Fundamental Courses 28 Credits****ARC 115 Sketching and Rendering 3 (1-4-6)**

Prerequisite: none

Studies include theories and techniques of free-hand drawing by using various media; i.e. pencils, pens, brushes, and other equipment including the computer

with emphasis on visualization and expression. Students practice drawing various scale visual objects; design products, interior and exterior architecture etc. The introduction and practical exercises on computer uses are added.

ARC 116 Technical Drawing 3 (1-4-6)

Prerequisite: none

Studies include the introduction to drafting tools, concepts of technical drawing and techniques. I. E geometry and architectural graphics-lettering, projections, assemblies, perspective. Isometrics, shade & shadow component details, specification and dimension in the area of architecture, interior architecture and industrial design. The introduction and practical exercises on computer aided drafting are added.

ARC 117 Design Fundamentals I 4 (1-6-8)

Prerequisite: none

This studio course provides an introduction to the elements, principles, and techniques that underline and inform the analysis, creation, and evaluation of visual organizations and are crucial to the process and product of form-making. This course consist of

1. An overview of selected topics pertaining to the perception of design fundamentals
2. The study of design fundamentals entailing point, linear, two-and three-dimensional elements or combinations thereof.
3. The study of color and its influence on design fundamentals

A variety of studio exercises are used to apply the knowledge and skills acquired throughout the semester.

ARC 118 Design Fundamentals II 4 (1-6-8)

Prerequisite: ARC 117 Design Fundamentals I

This course introduces the students to a working understanding of the factors and issues that underlie the translation of human needs and purpose into significant form. Course objectives are:

1. To establish a base of design concepts and knowledge with an introduction to references and ideas to foster independent inquiry.
2. To develop skills in environmental analysis, concept formation and certain aspects of design.
3. To familiarize students with images of architecture, interior architecture, and industrial design and design drawn from various times and cultures.

Specific topics include the basic elements, attributes and organizational principles of form and their relationship to design intention. Related topics include framework for design, design methods, site analysis and design, human factors and environmental factors.

INA 211 Color Fundamentals and Application 3 (2-2-6)

Prerequisite: none

Studies include the basics of color, its broad applications, technology, psychological response; and also the application, theoretical and practical, in the field of interior architecture.

INA 214 Interior Drawing and Rendering 3 (1-4-6)

Prerequisite: ARC 116 Technical Drawing

Studies include the development of personal skills in making presentations of interior architecture : methods of drawing, rendering, graphics, use of corresponding materials, and new techniques.

INA 311 Ergonomics – Safety and Human Disabilities 3 (3-0-6)

Prerequisite: none

Studies include the effects environment, interiors and furnishings have on the human body; concerns regarding the safety of designs; safety of building systems; maintenance as they effect normal performance; and current information regarding safety and disability laws (basic considerations in design of physically impaired).

INA 313 Space Planning 3 (2-2-6)

Prerequisite: none

Studies include area take-offs; interior surveying; gross, usable, and rent able cost ratios; lease development and review; schematic programming; abbreviated physical planning; development of preliminary and final record drawings/plans for lease approval and inclusion.

INA 411 Advanced Presentation Methods 2 (1-2-4)

Prerequisite: INA 214 Interior Drawing and Rendering

Studies include the development of personal skills in advance presentations of work; competition quality presentations; psychology; criticism; client selection deliberations; case studies; video presentations; combined media presentations; contact with respective field practitioners.

History of Art, Architecture and Interior Architecture 9 Credits

ARC 123 History of Art and Design 3 (3-0-6)

Prerequisite: none

The study of the development of man from Prehistoric times to the modern diversity of industrial needs using the widening range of materials and technologies to satisfy the identified user needs in contemporary society. To include paradigm shifts in design philosophy. The study covers the impact of global industrial to Asian.

ARC 223 History of Architecture I 3 (3-0-6)

Prerequisite: none

Studies include all aspects of architectural developments by European civilizations from prerecorded periods to the third quarter of the 20 century. Concerns regarding Interior Architectural developments are addressed as an integral part of the lectures and exercises.

ARC 224 History of Architecture II 3 (3-0-6)

Prerequisite: ARC 223 History of Architecture I

Oriental architecture history from Indian, China, Japan and South East Asia, by comparative study with Thai Architecture from past to present. Focus on architecture and Interior Space.

Architectural and Interior Architectural Design Principle Courses 40 Credits

ARC 231 Architectural Design Principle I 3 (3-0-6)
Prerequisite: none

Studies include concepts and environmental modifications which influence creativity in architectural design; design criteria which involves composition and relationships between form and space.

ARC 232 Architectural Design Principles II 3 (3-0-6)
Prerequisite: ARC 231 Architectural Design Principles I

Studies include the analysis of contemporary architectural design concepts and philosophy from works of leading architects; impacts of economics and technology on construction materials in contemporary architectural design; application of modern construction materials and techniques in the designs of modern architecture.

INA 333 Architectural Project Programming 3 (2-2-6)
Prerequisite: none

Studies include the methodology of gathering, analyzing, projecting and synthesizing information as gained through interview, questionnaires, and observation for the purpose of establishing an interior architecture project's program.

INA 434 Design Strategies and Critical Thinking 3 (2-2-6)

Prerequisite: none

Studies include introducing students to advanced design strategies by stimulating them to be able to think systematically. The student will be given the experiments exploring design concepts through different methods to enhance the design innovation. Additionally, they are expected to be able to develop critical thinking that is designed to help improve their own design efficiency.

ARC 241 Architectural Design I 4 (0-8-8)
Prerequisite: ARC 118 Design Fundamentals II

Architectural exploration concentrating on spatial design, space planning, architecture in response to climatic factors, basic construction materials and methods and cultural interpretation.

INA 241 Interior Architectural Design I 4 (1-6-8)
Prerequisite: ARC 241 Architectural Design I

Studies include the basic elements of interior space in detail from the technical to the intangible elements of mood, environmental conditions, and function. Studies shall also include professional expectations, responsibilities, and practices by using residential projects as a beginning experience and Thai Art as an experiment of design concept and application. This course starts by designing from functional analysis through the whole house, with emphasis on the initial schematic design and the beginning of the design process. The application of the computer as a 2-dimension drafting tool is required.

ARC 342 Interior Architectural Design I 4 (0-8-8)
Prerequisite: INA 241 Interior Architectural Design I

Studies include the initial development of a specialized residential project (i.e. hotel suites and condominium), from program through presentation with correlated courses addressing documentation and specifications; the review process is further developed to emphasize the schematic design process; short term sketch problems; semester long project with professional jury and application of a 3-dimension computer program as an aided design tool.

ARC 343 Interior Architectural Design III 4 (0-8-8)
Prerequisite: INA 342 Interior Architectural Design III

Studies include the design and planning of hospitality design (i.e. lobby, coffee shop, restaurant, bar, and pub), utilizing architectural components in harmony with the non-architectural elements. Emphasis is placed on materials, light, color, mechanical systems, safety, appropriateness to architectural design. The design processes focus on the schematic design to the preliminary design process. Professional presentation is required, with computer presentation technique used as a medium.

INA 444 Interior Architectural Design IV 4 (0-8-8)
Prerequisite: INA 343 Interior Architectural Design III

Studies include specific projects relating to commercial interiors and inherent planning procedures; sketch problems, plus a semester-long project (i.e. retail shops, showrooms, department stores, etc.). The preliminary design process and the application of the knowledge from the previous class (i.e. construction, environmental technology, etc.) to the project are emphasized during the project. The students are required to apply a walk through of an animation computer program as a medium for presentation.

INA 445 Interior Architectural Design VI 4 (0-8-8)
Prerequisite: INA 444 Interior Architectural Design IV

Studies include the design development process and detailed review of past projects, relating various detailed concerns of psychology, living and working habits, and specific needs. This studio class emphasized sketch problems and more developed projects addressing the needs of institutional, health care, museum, and professional employers/employees, as well as affluent clients. Emphasis is placed on problem solving in an architectural context with thorough analysis of all related elements and applying the whole knowledge studying from the previous semester especially the construction and environmental technology courses. Thorough knowledge of related computer programs are encouraged as an aided design tool and presentation medium.

INA 546 Interior Architectural Design VII 4 (0-8-8)
Prerequisite: INA 445 Interior Architectural Design V

Studies include special application interior projects, with unique requirements requiring research and program analysis and organized synthesis. This studio class includes sketch problems, plus a semester-long project related to their thesis/capstone



development. All aspects of graphic identification and presentation, research application, review process, apply the whole knowledge studying from the previous courses and corresponding use of computer aided programs are emphasized.

Interior Architectural Supporting Courses 9 Credits

INA 351 Furniture Design and Workshop 3 (1-4-6)
Prerequisite: INA 311 Ergonomics/ Safety and Disabilities

Studies include the examination and process of furniture design and development; the technical aspects of furniture construction; hands-on application of wood joinery, metal application, and plastic molding and production.

INA 352 Lighting Design 3 (2-2-6)
Prerequisite: ARC 382 Environmental Technology

Studies include the application of typical lighting systems into complex interior architectural projects; basic theater lighting design; as applied to museums, clubs, etc. advanced lighting systems and their applications.

INA 452 Exhibition Design
Prerequisite: none

Studies include the design and construction of permanent and knock-down display units for exhibitions; exercises in design and construction of units with the use of wide range of considered; budget allocation; installation; systems; and typical packaging, handling and transportation methods.

Materials and Construction Courses 9 Credits

ARC 261 Building Materials and Construction I 3 (1-4-6)

Prerequisite: none

Studies include building materials and construction methods from natural resources such as wood, brick, stone and others; studies of physical and chemical properties, scientific composition of these materials and their applications in building construction; and the experimental drawings of building components, I. E. foundations, columns, beams, floors, roofs, stairs, etc.

ARC 262 Building Materials and Construction II 3 (1-4-6)

Prerequisite: ARC 261 Building Materials and Construction I

Studies include building materials such as, glass, leakage protectors, damp proof materials, and insulators, installing techniques of other necessary components in buildings. Basics of surveys are introduced The experimental drawing of the position and dimension of components in detail are included.

INA 363 Interior Architectural Materials, Construction and Detailing 3(1-4-6)
Prerequisite: ARC 262 Building Materials and Construction II

Studies include the study and exercises of more intricate constructions and details of architectural building, with emphasis on interior detailing and materials.

Building Structure Course 3 Credits

ARC 171 Statics and Mechanics of Materials 3 (3-0-6)

Prerequisite: none

This is an applied course using architectural and industrial design examples; force and moment systems, equilibrium, plane stress and strain, deformation and stiffness, buckling of members and columns.

Environmental Technology Courses 12 Credits

ARC 281 Environmental Technology I 3 (3-0-6)
Prerequisite: none

Studies include the factors for creating and utilizing a comfortable state of living in contrast to the exterior environment, their influence and relationship to the building type, and including the building influences of heat absorption, heat protection, air conditioning and ventilation system

ARC 382 Environmental Technology II 3 (3-0-6)
Prerequisite: ARC 281 Environmental Technology I

Studies include influences of light on architectural work both exterior ; emphasis is on both artificial and natural light ; variables influencing lighting ; lighting systems ; lighting efficiency; lighting in different types of buildings; different constraints of lighting concerning atmosphere, visibility and the management of the building users, including power/ electricity distribution systems in building; electrical circuit and equipment; safety and utility needs of the building users.

ARC 383 Environmental Technology III 3 (3-0-6)
Prerequisite: ARC 382 Environmental Technology II

Studies include acoustics and noise control for architectural work, both inside and outside the building, including broadcasting, noise reflection and absorption, noise control and protection, sound quality, and the influence of sound on architectural design, as well as infrastructure, sanitary system, circulation, communication, and safety systems. Studies also include integration of all engineering systems of building-illumination, electricity, sanitary, air conditioning, ventilation, communication, safety, and intelligent building systems for planning and application to architectural design. This subject emphasizes on architecture which is influenced from the blending of design, environmental technology, and building engineering.

ARC 485 Energy Management for Buildings 3 (3-0-6)

Prerequisite: ARC 383 Environmental Technology III

Studies include the global process and energy management in building, including the factors which affect the energy in building and the control of these factors, the whole day illumination and air conditioning installation management, the need for end use energy, the state of energy consumption in heat and absorption of building surface, energy testing, energy saving, and the alternatives of energy management.

Professional Practice Courses 11 Credits

INA 491 Interior Architectural Training2 (S/U)

Prerequisite: INA 343 Interior Architectural Design III

Actual Interior Architectural Training to be carried out within a professional office during a summer session for continuous period of at least 6 weeks.

INA 494 Interior Specifications (FF&E) and Cost Estimation 3 (2-2-6)

Prerequisite: none

Studies include the research, cost analysis, and detailed specifications for all elements of the interior environment; production and labor standard; material and labor estimation for interior construction; schematic outlines, preliminaries for approval, bidding process and alternatives; analysis and synthesis of bids; segmented awards and follow through. Studies also include cost estimation according to material prices, wages, instruments, and management costs in various types of buildings; factors that influence initial costs, i.e. construction contract liability, special specification contract liability, special specifications, and labor.

ARC 493 Construction Management 3 (3-0-6)

Prerequisite: none

Studies include introduction into the business aspects of construction management; organizational and financial concerns during entry into business and continued operation; interior architects, architects, engineers and builders relationships; organization of their work; construction planning and control by critical path method; contracts and tendering; control tools; construction laws and regulations; safety in construction.

ARC 594 Professional Practice and Legal Aspects 3 (3-0-6)

Prerequisite: none

There are three main issues as follows:

1. Professional ethics which include codes of ethics and conducts, architect's responsibilities, the evolution of the profession and today's career options etc.
2. Laws involving architectural practice; namely building controls and professional controls. Others may involve zoning environmental protection, and energy conservation laws, etc Liability in faulty design will also involve tort and criminal law.
3. Architectural practice including forming organizational management teams, design contracts,

work process, preparation of bidding, contract and construction documents, roles and responsibilities of an architect as a designer in construction project.

Thesis, Thesis Preparation and other Courses 14 Credits

INA 501 Thesis Preparation 3 (1-4-6)

Prerequisite: INA 445 Interior Architectural Design V

Studies include the setting up of the project; search for available data; collection and data analysis and synthesis. Conclusions have to be made beforehand in written proposal papers and preparation of flow charts for thesis work.

INA 503 Interior Architectural Seminars 2 (0-4-4)

Prerequisite: none

Studies include the discussion of interior architecture projects and their problems in construction, with professional and industry practitioners. Students will be expected to know and understand basic concepts and design philosophy which are reasonable and relevant in all Interior Architectural construction systems.

INA 504 Thesis 9 (0-18-18)

Prerequisite: INA 546 Interior Architectural Design VI, INA 501 Thesis Preparation

The research, study and design of an interior building type of specific group of spaces utilizing the data from previous studies. Students will have an assigned instructors monitor the course of development with a professional jury for final review.

*****Elective Courses Not less than 9 Credits**

INA 314 Aesthetics 3 (2-2-6)

Prerequisite: none

An investigation into appreciation of design philosophy in form and other elements and the meaning of aesthetic values in relation to other elements of architecture and interior architecture.

INA 315 Visual Design 3 (2-2-6)

Prerequisite: none

Study and carry out experiments in visual design by using lines, shapes, forms, surface texture, color, proportion and scale, based on principles of design such as unity, balance, contrast and harmony; accentuation of design elements both in two and three dimensional design work. Emphasis is made on the fundamental principles, interrelationships of all branches of visual arts, and the applications into interior architectural design, in view of future applications to wide range of design disciplines.

INA 326 Thai Ornament 3 (2-2-6)

Prerequisite: none

Studies include detailed decorative elements, which are used as special features in Thai architecture both for interior and exterior design. The study includes field surveys and studio design works.

INA 329 History of Interior Architectural 3 (3-0-6)

Prerequisite: none

Studies include the periods, development and functions of interiors through the ages and corresponding design of furnishings and their comparative settings from the Egypt, Greece, Roman, Europe, American, and Asia to present.

ARC 368 Shop Drawing/Detail Drawing3 (1-4-6)

Prerequisite: ARC 262 Building Materials & Construction II

Studies include the procedure in detailed drawings for the construction of other related works including field studies on some exemplary projects in order to develop insights into realistic situations.

IND 332 Photo Graphics Application 3 (1-4-6)

Prerequisite: none

An experimental photo workshop in techniques of manipulating existed images to create new visual ideas emphasizing individual exploration discussion and critiques.

INA 412 Advance Computer Application in Interior Architectural Design 3 (1-4-6)

Prerequisite: INA 214 Interior Drawing and Rendering

Studies include the introduction into the use of advanced Computer Aided Design software and its application to interior architectural design and presentation; experience in using existing software tools and exploration of computer graphics media. Emphasis is placed on advance interior architectural drafting, drawing (2 and 3 dimensional) and rendering; animation; file establishment with corporate users; and computer-aided design software use.

INA 451 Interior Graphics 3 (1-4-6)

Prerequisite: none

Studies include composition of elements, type marks symbols, signage, logos etc. emphasis is made on design development from the initial concept to the use of photographic art. History of events and application of a design theme will be applied to the design.

INA 453 Garden Design for Interior Architecture 3 (2-2-6)

Prerequisite: none

Studies include a variety of plants in architectural settings used as interior and exterior decoration of buildings; emphasis on their biological nature, environmental effect, reproduction methods maintenance and appropriate utilization.

INA 495 Professional Sales and Marketing 3 (2-2-6)

Prerequisite: none

Studies include the range of interior architectural services; preparation of proposals for client; public relations by using media, competition and creation of image for the projects; areas of most productive and profitable markets; exploration into the process, services and materials available for the on-going exercises of project acquisition. Benefits of professional peer societies are examined for their usefulness toward the end of professional sales.

INA 496 Business Management and Ministration 3 (2-2-6)

Prerequisite: none

Studies include a fundamental understanding in business management; codes of professional practice; basic principles in management; guiding concepts in management; corporate cost accounting; design and construction documentation; office administration procedures, and corresponding interior architectural responses to corporate needs.

INA 497 Interior Architectural Case Studies and Fieldtrips 3 (1-4-6)

Prerequisite: none

The Study is to familiarize students with basic concepts, design philosophy and design analysis in various aspects relating to commercial interior planning, design and construction. This is done by way of visiting real sites. In addition to normal class procedures, students have to do their own self-experiments, discussion and research.

ARC 329 Analysis of Contemporary Architecture 3 (2-2-6)

Prerequisite: none

Study of development in all aspects involving in the emergence of contemporary architecture systematically. Analyze and collect all findings using different types of media such as drawings, media such as drawing, models or digital media. In each semester, architecture of a countries is selected to be working models.

ARC357 Information Technology for Architects and Designers 3 (2-2-6)

Prerequisite: none

This course focuses on information technology that can be applied to use in architectural and design works. The course covers the topics of management of computer in architectural and design office, data management, applied internet and modern communication. It also covers the current technology that will be applied in architecture and design works. Students will have practical exercises and experiments with applying information technology in their work.

ARC 434 Thai Vernacular Architecture 3 (3-0-6)

Prerequisite: none

Studies of regional features of buildings in Thailand. Undertake an analysis on derivation of building forms relating to cultural and traditional values, local materials and physical environment in order to develop an awareness in the values of folk arts and traditional design work in Thailand.

ARC 455 Computer in Architectural Design 3 (1-4-6)

Prerequisite: none

'The use of computer in architectural design, exhibition, communication and searching of various methodologies that could be applied in the design process by emphasizing in the creation of architectural work.



ARC 457 Housing 3 (2-2-6)

Prerequisite: none

Study standards and classifications of residential units. Study the procedure, regulations and guiding concept in providing living accommodation for the community, including the elderly. Study problems affecting peoples' accommodation both in urban and rural areas. Instruments; building codes, occupancy standards, and zoning by-laws are examined.

ARC 459 Music Appreciation 3 (3-0-6)

Prerequisite: none

Studies characteristics of classical musical instruments, musical development of pattern and form, guidelines for appreciation of classical music from both Eastern and Western cultures.

ARC 461 Building Materials and Construction IV 3 (2-2-6)

Prerequisite: none

To study the principles in making the architectural detailing documents and detailing schedule of various building types. Preparation of the architectural accessories and presentation technique.

ARC 497 Introduction to Facilities Management 3 (3-0-6)

Prerequisite: none

'Facilities Management includes different aspects of professional fields for example space planning, basic programming, project management, cost estimation and control, work planning, design process administration, maintenance and management.

IND 431 Behavioral Analysis and Design 3 (2-2-6)

Prerequisite: none

Introduces information about the perceptual, cognitive, and behavioral reactions of people in the context of their interactions with machines and environments.

INA 553 Independent Study 3 (1-4-6)

Prerequisite: none

Special study adjusted to individual needs.

Free Electives Not less than 6 Credits

5 Years Structure

Industrial Design Program

School of Architecture, KMUTT

Name of Program

Bachelor of Architecture Program in Industrial Design

Degree

Full name: Bachelor of Architecture, (Industrial Design), English Program

Abbreviate name: B. Arch. (ID.), English Program

Objectives

- To graduate continuing students into the professional world of practice and new studies. Continuing developments within the profession can only occur by providing as much foundation knowledge of design, science and technology to young professionals, and simultaneously, stimulating their thinking process and self-direction achievement to develop design innovation,
- To provide the most comprehensive education through the English language program, and to develop an aspiring graduate to be thoroughly trained and adaptable to an international market, as well as be prepared to contribute to the culture, welfare and reputation of Thailand.
- To promote research and development leading to the integration of technology applications in Interior Architecture, and to under the technical services on design, consultation, advisory management and training to government departments, industries, and related private sector.

Industrial Design Program

Philosophy – Human Centered Design

The future professional designers who graduate from SoA&D are to have a sensitivity to Human-Centered Design, the human being who uses the product; they are required to understand human need in order to bring products or artifacts for end-users; and they are expected to become specialists in physical, psychological, social, and cultural human factors; the future goals of the program will emphasize mass customization, design for individual users in mass production.

Physiological

In order to design thing well, understanding the dimensions and movement of the human body, and of its perceptual systems, as an essential preliminary to the design of all artifacts for human use is crucial.

The context of ergonomics must be understood as it applies to the design and development of products. Both static and dynamic Anthropometry, applications of anthropometrics to product design must be well analyzed including human characteristics and

behavior applied to design of products, system, their operating, and the environment.

Effects of stress, fatigue, comfort, and other dynamic factors associated with human effort in the use of products should be consideration.

The most important role of Physiological Human Factor in product design is;

Enhancing the effectiveness and efficiency with work and activities (including increased convenience of use, reduce errors, and increased productivity).

And also to enhance certain desirable human value, including improved safety, reduced fatigue and stress, increased comfort, greater user acceptance, increased job satisfaction, and improve the quality of life.

Ergonomic is the term that has been used to represent Human Factors

Anthropometry

The word "anthropometrics" means measurement of the human body. It is divided from the Greek words

Anthropos = MAN

Metron = MEASURE

Anthropometrics data are use in ergonomics to specify the physical dimensions of workspaces, equipment, furniture, and clothing so as to "Fit the task to the man"

Anthropometry deal with the measurement of the dimensions and certain other physical characteristics of the body; such a thing that relevant to the design of people use.

There are two primary types.

- Structural measurement (static)
- Functional measurement (dynamic)

Focus of Human Factor

Human factor focuses on human beings and their interaction with

- Products
- Equipment
- Facilities
- And environments used in work and every day living.

Human factors seeks to change the thing people use and the environment in which they use these thing to better match the capabilities, limitation, and needs of people.

What Human Factors is not?

All often, when people are asked what a human factor is, they respond by saying what it is not. The following are three things a human factor is not

- Human factors is not just applying checklists and guideline
- A human factor is not using oneself as the model for designing things.
- Human factor is not just common sense.

How the Human Factors (Physiological) make good products?

Functional

Applied Anthropometrical data / function of control, safety and utility Applied Biomechanics, human error, and visual sense (illumination, display, noise)

Convenience of Use

Arrangement of component, simplify the structure of task

Easy to Maintenance

Make things easy to evaluate both system and function.

Effective Behavior

Monitoring tasks, human criteria (measured with performance, physiological)

Psychological

The psychological aspect of product design can be understand as; *visibility, natural signals (natural design), naturally interpreted* which provide an appropriate strong clues to the operations of things by using the mapping method to find the relationship between two things (natural mapping lead to immediate understanding) so that the user can figure out *what to do* and be able to tell *what is going on*.

Cognitive Human Factor

Many new product system users since there is an increase the level of complication and the difficulty of use to the end- major impact from computer technology and information.

Cognitive human factor is an important element of human-centered design. This factor is used to create the product that serves the concept of **easy to use**. The range of study in this area is the interface design, interaction design, and human learning.

Knowledge borrows from inter disciplines such as cognitive sciences, and psychology will be applied and used by designers who establish the communication between products and end-users.

How the Human Factors (Psychological) make good products?

Friendly with user

Understandable, easy to use, and comfortable of use. (Make it easy)

Appearance

In the sense of Form, color, texture

Safety

Knowing what to do, proper display, and reduce error.

Social trend and Culture

No matter how far globalization advances due to new information and communication technology, there is one thing that will never change. It is the *culture unique* to the country, region and people living there. Although information and product influx from overseas have strong influence, the country's history

and culture have an even stronger and more persistent influence (social trend).

In the era of globalization, social and cultural factor plays an important role for the design research as a driving force of a new insight for a product innovation. By looking at the user lifestyle, and cultural value. Design researchers will apply methodologies, tools and frameworks from sociology and anthropology such as artifact study, user observation, cultural circuit framework, and cultural testing as a mean to understand the user needs. The ultimate goal of the study is not only to create a product from the social or cultural aspect, but it also creates products that users can live with.

Culture

Culture awareness has to do with values and patterns of daily living

Social

Focus on group's ability to work together

How the Human Factors (Social trend and Culture) make good products?

Uniqueness

Building differentiates and distinguished nationality

User Friendly

Comfortable of sense and acceptance, culture awareness, familiar and unfamiliar

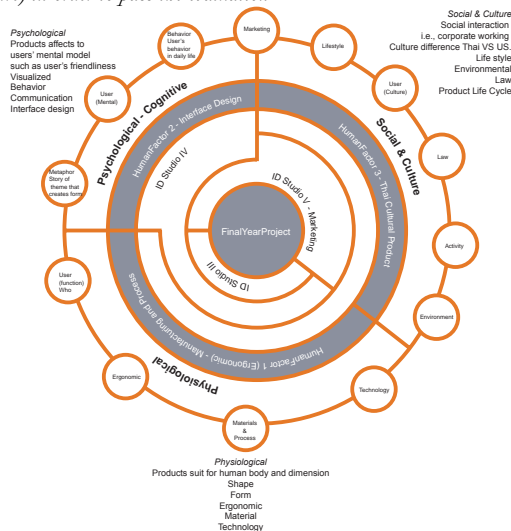
Effective Behavior

Understanding task performance

Convenience of Use

Task analysis

The Final Year Project must contain with value of those three philosophy elements (Physiological / Psychological / Social & Culture) in order to pass the evaluation



If everyday design were rule by aesthetic, life might be more pleasing to the eye but less comfortable;

*if rule by usability, it might be more comfortable but ugly.
If cost or ease of manufacture dominated, products might not be attractive, functional, or durable.
Clearly, each consideration has its place. Trouble occurs when one dominates all the others.*

Program Duration

Completion of required credits for full-time program are to be made within a period of 10 semesters or 5 academic years, but not to exceed 20 semesters or 10 academic years.

Curriculum

Total Program Credits **178credits**

Curriculum Components

General Education Courses 37credits

- Social Science Courses 10 credits
- Humanities Courses 6 credits
- Language Courses 9 credits
- Science and Mathematics Courses 12 credits

Major Courses

- Industrial Design Fundamentals Courses 26 credits
- History of Art and Industrial Design Courses 11 credits
- Industrial Design Principle 27 credits
- Industrial Design Technology Courses 12 credits
- Human & Social Factor Courses 20 credits
- Professional Practice Courses 15 credits
- Thesis ands Other Courses 12 credits
- Industrial Design Elective Courses not less than 6 credits
- Elective Courses (SoAD) not less than 6credits

Free Elective Courses not less than 6 credits

Industrial Design Program

Year 1

First Semester		
Code	Course	Credit*
ARC 115	Sketch and Rendering	3(1-4-6)
ARC 117	Design Fundamentals I	4(1-6-8)
ARC 123	History of Art and Design	3(3-0-6)
LNG 102	Fundamental English II	3(2-2-6)
LNG 103	Fundamental English III	3(2-2-6)
MTH 105	Mathematics I	3(3-0-6)
Total		19(13-12-38)
Summer Semester		
SSC 101	Physical Education	1(0-2-2)
Total		1(0-2-2)
Second Semester		
Code	Course	Credit*
ARC 116	Technical Drawing	3(1-4-6)
ARC 118	Design Fundamentals II	4(1-6-8)
ARC 171	Static and Mechanics of Materials	3(3-0-6)
LNG 104	Content-based Language Learning	3(2-2-6)
MTH 106	Mathematics II	3(3-0-6)
PHY 106	General Physics	3(3-0-6)
Total		19(12-14-38)

Year 2

First Semester		
Code	Course	Credit*
IND 212	Application of Product Form	3(1-4-6)
IND 215	Industrial Design Illustration	3(1-4-6)
IND 221	History of Industrial Design	3(3-0-6)
IND 241	Industrial Design I	4(2-4-8)
IND 251	Material Sciences & Process. I	3(2-2-6)
SSC 162	Society and Culture	3(3-0-6)
Total		19(12-14-38)
Second Semester		
IND 222	Contemporary Art & Design	2(1-2-4)
IND 211	Application of Colors	3(1-4-6)
IND 213	Industrial Design Drawing	3(1-4-6)
IND 242	Industrial Design II	4(1-6-8)
IND 252	Material Sciences & Process. II	3(2-2-6)
IND 264	Research Methodology	3(2-2-6)
Total		19(12-14-38)

Year 3

First Semester		
Code	Course	Credit*
IND 343	Industrial Design III	4(1-6-8)
IND 347	Applied Product Graphics	3(1-4-6)
IND 353	Computer-aided Industrial Design	3(1-4-6)
IND 361	Human Factors I	3(2-2-6)
SSC xxx	Social Sciences Elective	3(3-0-6)
XXX xxx	Free Elective	3(x-x-x)
Total		19(x-x-x)
Second Semester		
ARC 359	Design Psychology	3(3-0-6)
IND 344	Industrial Design IV	4(1-6-8)
IND 354	Computer-aided Manufacturing	3(1-4-6)
IND 362	Human Factors II	3(2-2-6)
IND xxx	Elective	3(x-x-x)
SSC 371	Marketing	3(3-0-6)
Total		19(x-x-x)

Year 4

First Semester		
Code	Course	Credit*
IND 422	Thai Cultural Products	3(3-0-6)
IND 445	Industrial Design V	4(1-6-8)
IND 463	Human Factors III	3(2-2-6)
IND xxx	Industrial Design Elective	3(x-x-x)
IND xxx	Elective	3(x-x-x)
SSC xxx	Humanities Elective	3(x-x-x)
Total		19(x-x-x)
Second Semester		
IND 446	Industrial Design VI	4(1-6-8)
IND 471	Technology and Design Innovation	3(3-0-6)
IND 472	Product Life Cycle	3(3-0-6)
IND 494	Industrial Design Communications	3(1-4-6)
IND xxx	Industrial Design Elective	3(x-x-x)
XXX xxx	Free Elective	3(x-x-x)
Total		19(x-x-x)

Year 5

First Semester		
Code	Course	Credit*
IND 593	Industrial Design Internship	9(0-0-40)
IND 501	Thesis Preparation	3(1-4-6)
Total		12(1-4-46)
Second Semester		
IND 502	Thesis	9(0-18-18)
IND 573	Seminar	2(0-4-4)
IND 595	Professional Practice and Legal Issues	3(3-0-6)
Total		14(3-22-28)

*Credit = Credit Hour (Lecture-Practice-Self Study)

Course Description

ARC 115 – Sketching and Rendering 3(1-4-6)

Prerequisite: none

Studies include theories and techniques of free-hand drawing by using various media; i.e., Pencils, pens, brushes, and other

equipment including the computer with emphasis on visualization and expression. Students practice drawing various scale visual objects; -design products, interior and exterior architecture etc. The introduction and practical exercises on computer uses are added.

ARC 116 – Technical Drawing 3(1-4-6)

Prerequisite: none

Studies include the introduction to drafting tools, concepts of technical drawing and techniques; i.e. geometry and architectural graphics –lettering, projections, assemblies, perspective, isometrics, shade & shadow, component details, specification and dimension in the area of architecture, interior architecture and industrial design. The introduction and practical exercises on computer-aided drafting are added.

ARC 117 – Design Fundamentals I 4(1-6-8)

Prerequisite: none

This studio course provides an introduction to the elements, principles, and techniques that underline and inform the analysis, creation, and evaluation of visual organizations and are crucial to the process and product of form making. This course consists of:

- An overview of selected topics pertaining to the perception of design fundamentals
- The study of design fundamentals entailing point, linear, two-and three- dimensional elements of combinations thereof.
- The study of color and its influence on design fundamentals

A variety of studio exercises are used to apply the knowledge and skills acquired throughout the semester

ARC 118 – Design fundamentals II 4(1-6-8)

Prerequisite: ARC 117 – Design Fundamentals I

This course introduces the students to a working understanding of the factors and issues that underlies the translation of human needs and purpose into significant form. Course objectives are:

- To establish a base of design concepts and knowledge with an introduction to references and ideas to foster independent inquiry.
- To develop skills in environmental analysis, concept formation and certain aspects of design.
- To familiarize students with images of architecture, interior architecture, and industrial design and design drawn from various times and cultures.

Specific topics include the basic elements, attributes and organizational principles of form and their relationship to design intention. Related topics include framework for design, design methods, site analysis and design, human factors and environmental factors.

ARC 123 – History of Art and Design 3(3-0-6)

Prerequisite: none

The study of the development of man from Prehistoric times to the modern diversity of industrial needs using the widening range of materials and technologies to satisfy the identified user needs in contemporary society. To include paradigm shifts in design philosophy. The study covers the impact of global industrial design to Asian.

ARC 171 – Static and Mechanics of Materials 3(3-0-6)

Prerequisite: PHY 121 – Physics I

This is an applied course using architectural and industrial design examples, force and moment systems, equilibrium, plane stress and strain, deformation and stiffness, buckling of members and columns.

ARC 359 – Design Psychology 3(3-0-6)

Prerequisite: none

Studies include the review of fundamental concepts of psychology; psychological factors and their impact on human behavior; processes of human behavior, perception, cognition and affects and conceptual systems; spatial behavior; psychological principles in color and form design.

IND 211 – Application of Colors 3(1-4-6)

Prerequisite: none

Study of the physical, physiological, and psychological aspects of color. An investigation of various colors systems. Introduction to Alber's theories of color perception. Historical influences of color in Thai culture. Including an application of color to Industrial Design. Principles of creative concept synthesizing technical problem solving and visualization.

IND 212 – Application of Product Form 3(1-4-6)

Prerequisite: none

Study of the physical, physiological, and psychological characteristics associated with the development of product forms. Historical influences of form in Thai culture. Principles of creative concept synthesizing technical problem solving and visualization

IND 213 – Industrial Design Drawing 3(1-4-6)

Prerequisite: ARC 116 – Technical Drawing

Instruction in the perspective drawing advanced techniques in shade, shadow, reflection, and realistic representations of surface texture. Introduction to use of color. The unit also introduces concepts of 3D Modeling and basic rendering in computer together with practical exercises with existing applications on computers.

IND 215 – Industrial Design illustration3(1-4-6)

Prerequisite: IND 213 – Industrial Design Drawing

Advanced instruction in perspective and illustration techniques used for accurate and dramatic professional visual presentations. Advanced application of color. The unit also discusses concepts of advanced illustration such as texture mapping and lighting. It includes discussion on producing realistic computer generated images and practical exercises with professional application on computer.

IND 221 – History of Industrial Design 3(3-0-6)

Prerequisite: none

The study of man design from early vernacular needs to the modern diversity of industrial needs using the widening range of materials and technologies to satisfy the identified user needs in contemporary society. To include paradigm shifts in design philosophy. The study covers the impact of global industrial design to Asian.

IND 222 – Contemporary Art & Design 2(1-2-4)

Prerequisite: none

Study of design relates to the human need to shape environment in accordance with concerns of specific periods in history. The principles will discover by examining the human relationship to the built environment through a sequence of scales from the organization of architecture and housing the design of furniture and product.

IND 422 – Thai Cultural Products 3(3-0-6)

Prerequisite: none

Studies of regional features of craft product in Thailand. Undertake an analysis on derivation of product forms relating to cultural and traditional values, local materials and physical environment in order to develop awareness in the values of folk arts and traditional design work. This study includes applied industry technology to Thai Product.

IND 331 – Independent Study 3(x-x-x)

Prerequisite: none

Special study adjusted to individual needs.

IND 332 – Independent Study 3(1-4-6)

Prerequisite: none

An experimental photo workshop in techniques of manipulating existed images to create new visual ideas emphasizing individual exploration discussion and critiques.

IND 431 – Behavioral Analysis and Design 3(2-2-6)

Prerequisite: none

Introduces information about the perceptual, cognitive, and behavioral reactions of people in the context of their interactions with machines and environments.

IND 432 – Intelligent Product 3(1-4-6)

Prerequisite: none

Applies the control technology concepts developed in Industrial Design. A conventional product is redesigned to improve its functionality. Control

requirements are assigned to human or machine responsibility, the interface is designed, control processes are programmed, and a breadboard of prototype product is built to test the design.

IND 464 - Entrepreneurship for Designers 3(3-0-6)

Prerequisite: none

The ultimate goal of this course is to introduce design students the understanding and application of business plan by describing keywords such as Marketing Plan, Managing Cash Flow, and Financial Plan. Studies include how to generate business plans. This course will suggest student how to set their own small to medium size business (manufacturing firm) in overview caused to recover from an economic recession come from SME. Established drive by product exporting. Essential topics in small business management and entrepreneurship. Using an abundance of real-world examples, and practical hands-on exercises and activities.

IND 241 – Industrial Design I 4(2-4-8)

Prerequisite: none

Introduction to Industrial Design processes, multiple approaches and projects, examination of methods and techniques in design problem solving. Design of simple products as a means of introducing systematic method, sketching, and product presentation.

IND 242 – Industrial Design II 4(1-6-8)

Prerequisite: IND 241 – Industrial Design I

Creative thinking, visualization and the ideation process of conceiving, developing, and recording ideas two-dimensionally. Planning and design of useful products for industrial production.

IND 343 – Industrial Design III 4(1-6-8)

Prerequisite: IND 242 – Industrial Design II

Introduction to the Human-Centered Design cooperating with studying of the human factor on Ergonomics. Study will learn the Design research, Problem definition, Concept (visual) presentation. Experiences that expand upon and combine intellectual and manual skills required for practice of Industrial Design. Emphasis on identifying and solving design problems through manipulation of form, application of human factors, product safety awareness, appropriate combination of materials and fabrication techniques and the presentation of concepts.

IND 344 – Industrial Design IV 4(1-6-8)

Prerequisite: IND 343 – Industrial Design III

Continues on the Human-Centered design issues. The study of human factor on Cognitive, Social and Humanities is considering on the students' projects. The class will introduce the interface design used for an electronic product or related interface product.

IND 445 – Industrial Design V 4(1-6-8)

Prerequisite: IND 344 – Industrial Design IV

Design analysis, Concept (physical) presentation. Emphasis the refinement of solutions in terms of suitable technology and user consideration. Design of products and product systems for complex functions.

Emphasis on extending designs considerations to include detail design, study models, and prototypes. Concern for product validation is involved.

IND 446 – Industrial Design VI 4(1-6-8)

Prerequisite: IND 445 – Industrial Design V

Design integration, students are introduced to cross-function teamwork such as marketing and engineer to serve the client requirements. Students' projects emphasis on advanced design and specific issues such as Environmental Design, and Design for Publicity.

IND 347 – Applied Product Graphics 3(1-4-6)

Prerequisite: none

Principles of graphic design that are applied to products. Application and integration of typographic and graphic elements in the design of three-dimensional forms.

IND 251 – Material Sciences & Processes I 3(2-2-6)

Prerequisite: none

Develops a working knowledge of wood, glass, ceramic, leather, and fabric materials and process. Studies include structure of atoms, predictable, properties of elements, chemical bonding, stoichiometry, electrochemistry, solids and crystals, type of materials. Guest lectures field trips, demonstrations and workshop activities.

IND 252 – Material Sciences & Processes II 3(2-2-6)

Prerequisite: none

Continued studies in the materials and processes used of metal, structure of atoms, predictable, properties of elements, chemical bonding, stoichiometry, electrochemistry, solids and crystals, type of materials, plastic and composite material worked in industry as well as to the properties of polymers, chemistry and environments, and how to select them to meet the requirements of product profiles, Guest lectures field trips, demonstrations and workshop activities,

IND 353 – Computer-aided Industrial Design 3(1-4-6)

Prerequisite: none

Application of computer graphics modeling to construction and visualizing the design issues of form, space, color and include modularity, data structures, and other aspects of programming for the support of design process. Brief introduction to CAM.

IND 354 – Computer-aided Manufacturing 3(1-4-6)

Prerequisite: IND 353 – Computer-aided Industrial Design

CAD/CAM in the design, analysis, and manufacturing process. Three dimensional solid modeling, finite analyses and CAM are employed. A project will be taken from first concept through final documentation. The presentation, technical description, engineering analyses, and finalization to computer numerically Controlled (CNC) testing prototype production of a product.

IND 361 – Human Factors I 3(2-2-6)

Prerequisite: none

Introduces students to the broad context of ergonomics as it applies to the design and development of products, Aim of this subject is to provide a basic understanding of the dimensions and movement of the human body, and of its perceptual systems, as an essential preliminary to the design of all artifacts for human use. Studies include static and dynamic Anthropometry, applications of anthropometrics to product design. Including human characteristics and behavior applied to design of products, system, their operating, and the environment. It acquaints the student with effects of stress, fatigue, comfort, and other dynamic factors associated with human effort in the use of products.

IND 362 – Human Factors II 3(2-2-6)

Prerequisite: IND 361 – Human Factors I

Introduces students to the Human Factors in the context of cognition, social pattern and cultural values. These courses will emphasis on the interface design in man-machine system such as Human Memory. Task Analysis and Human Errors. Students will learn how to implement works on the interface products.

IND 463 – Human Factors III 3(2-2-6)

Prerequisite: IND 362 – Human Factors II

Introduces students to the Human Factors in the context of Human (man behavior) and environmental system. Overview of the Social/ Behavioral and Physical nature of human being and their interaction with the environment as interpreted by the industrial design, the build up of advanced idea and methods used to design products and environments that fit improve the social and culture behavior. Topics are selected by students and approved by the teaching staff.

IND 264 – Research Methodology 3(2-2-6)

Prerequisite: none

Studies on Research Design and Research Methods especially on Empirical Testing. This study includes how to use tools for collecting data on human behavior and environment such as notation, maps, tape record, photographs, and Videotapes. Other research approaches such as interview, research setting might include in this study.

IND 471 – Technology and Design Innovation 3(3-0-6)

Prerequisite: none

Concentrate on the economic role of industrial design especially economic theory such as capitalism, mass production and mass customization. Explain the content of design as creator of value and the effects of technology change in the design context.

IND 472 – Product Life Cycle 3(3-0-6)

Prerequisite: none

Product life cycle studies the theory and the application of a products development, use, and disposal. The course addresses issues of energy consumption and conservation, appropriate uses of

technology, material and component use and reuse, and maintenance. Governmental and private influences on product life cycle will be included.

IND 573 – Seminar 2(0-4-4)

Prerequisite: none

Explores contemporary topics of importance to the field of Design as well as Industrial Design such as Principle of Industrial Design, Ethical issues.

IND 593 – Industrial Design Internship 9(0-0-40)

Prerequisite: none

Internship will start from the summer of forth year to the first semester of the fifth year. Industrial Design internship is a supervised field experience in an industrial design office or closely related industry. The faculty of the Industrial Design program must approve the internship. Ideally, the internship will be with Thai based company or design office, although other options will be considered. The student will be expected to perform in a capacity that closely matches the expectations of the profession. An opportunity to expand the students understanding of the complexities, discipline, and challenges in the practice of Industrial Design

INA 494 – Industrial Design Communications 3(1-4-6)

Prerequisite: none

The course will develop awareness in students about importance of good communication skill in the field of Design. It will help students develop skills for effective verbal and written communication. The topics include meaning and significance of communication, types of communication, basic principle of effective communication and language use, basic of verbal and written communication (interpersonal interactions, small-group discussion, presentations, comprehension, letter, reports).

The course aims of develop communication skills necessary for a Design professional. Topics include professional communication set-ups and technology, forms of verbal communication for professionals (meeting, interviews, presentations), forms of written communication for professionals (proposals and reports, research based writing, resume), audio-visual communication and the use of multi-media.

IND 595 – Professional Practice and Legal Issues 3(3-0-6)

Prerequisite: none

Professional practice is concerned with the procedures of operating a consulting practice. Studies include topics in billing procedures, cost estimating, office organization and management, vendor selection and relationship, and record keeping. Legal issues are concerned with intellectual property, product liabilities, regulatory codes, and governmental policies in design related area.

IND 501 – Thesis Preparation 3(1-4-6)

Prerequisite: IND 446 – Industrial Design VI

Thesis preparation is student-initiated problem definition, research, analysis, and proposals for final thesis project. Product thesis projects demonstrate

the students' comprehension and proficiency of the curriculum subject matter. Ideally, proposals will be oriented to the internship experience and supported in part through the corporation providing the internship. The student will be meeting at regularly scheduled intervals with the supervising faculty member to refine the nature of the project and to research the state-of-the-art.

IND 502 – Thesis 9(0-18-18)

Prerequisite: IND 501 – Thesis Preparation

Student creates a complete prototype of an approved design project based on his research and design concepts. The prototype may be functional or an appearance model depending on the requirements of the project and the expectations of the sponsor and faculty. The student is required to present the final project to a group of the faculty and invited professionals for criticism and evaluation.

IND xxx – Elective 3(2-2-6)

Prerequisite: none

Intensive classes that supporting on Product design and introduces a new track on Visual Communication Design. For product design track, students will study specifically in parametric design, advance specific problem of manufacture, marketing, and human-factor. For visual communication track, the interactive media will be introduced.

IND 433 - Designing Interfaces 3(2-2-6)

Prerequisite: none

This course is about the design and development of useable, effective and engaging interactive products and interfaces. Students will be introduced to some of the fundamental principles and methods of product interface design and explore these through small-scale exercises and project work. The courses will foreground the various needs of the user as they interact with artifacts and systems. Students will use various forms of prototyping in order to explore and evaluate how interfaces afford interaction by using various forms of physical and digital prototyping.

IND 465 - Product Characteristics 3(2-2-6)

Prerequisite: none

Students learn the basics of how to design objects of mass production. Via both studio and theory classes they should by now be aware of the manufacturing constraints by which any product they design will be judged. Now they must also consider the parameters of product differentiation. This course aims to expose them to the realities of market expectations and product identity (both in terms of 'product type' and CI). The approach taken is to be one of case study and practical application. Students will analyze the products of CI orientated manufacturing companies and also apply what they have learnt to their own projects being run in the studio classes.

IND xxx – Elective 3(2-2-6)

Prerequisite: none

Special topic of current interest in design will be selected for advance study. The topic will support Visual Communication and Product Design.

LNG 120 – Pre-session Course **non-credit**

Prerequisite: none

Increasing learner's self confidence in using the oral forms of English for communication, i.e., emphasizing listening and speaking. Raising awareness on possible solutions to language problems and need for learner's continual self-directed practice an assessment. Introducing strategies of self-monitored language practice and training in self-correction through the use of functional grammar.

LNG 121 – Learner Training for English Learners I
3(2-2-6)

Prerequisite: LNG 120 - Pre-session Course

Including a presentation matrix as a framework for organization ideas into a well-sequenced and coherent text – a target performance for academicians and/or professional architects. Practice on different steps of effective presentation delivers, including self-assessment and peer-assessment. Raising awareness on study skills and learner-training strategies.

LNG 122 – Learner Training for English Learners II
3(2-2-6)

Prerequisite: LNG 121 – Learner Training for English Learners I

Focusing on the practice of speed-reading and speedwriting, especially note-taking and summary writing from conversations and discussions. Extensive use of the Self-access Learning center and a learner training room is provided for individual study and practice on the four language skills, emphasizing fluency as well as accuracy. Learners are responsible for producing 2 written reports and oral presentations with teachers' occasional support through consultations.

LNG 223 – Learner Training for English Learners III
3(2-2-6)

Prerequisite: LNG 122 – Learner Training for English Learners II

Focusing on fluent and accurate speaking practice and report writing, and reason in skills. Assessment is based on individual performance in debates, discussions, impromptu contributions oral presentations, and written reports.

LNG 224 – learner Training for English Learners IV
3(2-2-6)

Prerequisite: LNG 223 – Learner Training for English Learners III

This is an optional in-session course language support for those who need help in expressing critical opinions related to architecture and/or related areas through learner-initiated consultations with one tutor of English and one of a specialized area.

MTH 105 – Mathematics I **3(3-0-6)**

Prerequisite: none

Studies include concepts and application of limits, continuity, derivative and integral mathematics; logarithmic and exponential functions; functions of several variables and partial derivatives.

MTH 106 – Mathematics II **3(3-0-6)**

Prerequisite: MTH 105 – Mathematics I

Studies include solid analytic geometry; vector on three dimensions; methods of linear algebra for solving systems of linear equations; series of numbers; series of functions; differentiation and integration of series; Taylor's series.

PHY 121 – Physics I **3(3-0-6)**

Prerequisite: none

Studies include equilibrium, force and motion, size, strength and sealing; conservation of energy; conservation of momentum; pressure of air and water; heat and temperature vibrations; and waves, sound and hearing.

SSC 101 – Physical Education **1(0-2-2)**

Prerequisite: none

Studies and practices the sports and health, principles of exercise, care and prevention of athletic injuries, nutrition and sports science including basics skills in sports with sport rules and strategy from popular sports. The students can choose one of several sports available, according to their own interest. This course will create good health, personality and sportsmanship in the learners as well as develop the awareness in etiquette of playing, sport rules fair play and being good spectators.

SSC 162 – Society and Cultures **3(3-0-6)**

Prerequisite: none

Studies include the examination of the relationships between various disciplines in social sciences; the nature of mankind; human society; socialization; social and cultural change; and social crisis.

SSC 211 – Philosophy **3(3-0-6)**

Prerequisite: none

Studies include an investigation of the principles of philosophy; various branches of philosophy; basic problems in philosophy will be discussed, i.e. metaphysics, epistemology, ethics, reality, and change.

SSC 212 – Introduction to Ethics **3(3-0-6)**

Prerequisite: none

Studies include the examination of important theories of ethics and their application to contemporary moral issues such as abortion, environmental problems, professional behavior and appropriate censures.

SSC 213 – Introduction to Logic **3(3-0-6)**

Prerequisite: none

Studies include an investigation into the laws of reasoning, nature of inductive and deductive methods of reasoning; principles of valid and invalid reasoning.

SSC 221 – History of Civilization **3(3-0-6)**

Prerequisite: none

The study of human behavior by scientific methods, including the biological foundations of behavior, sensation and perception, learning, memory, cognition, human development, personality, abnormal behavior, and health psychology.

SSC 231 – General Psychology 3(3-0-6)

Prerequisite: none

The study of human behavior by scientific methods, including the biological foundations of behavior, sensation and perception, learning, memory, cognition, human development, personality, abnormal behavior, and health psychology.

SSC 241 – Principle of Political Science 3(3-0-6)

Prerequisite: none

Study scope and content of political science, nature of state, type of governing, political institution, bureaucratic system, administrative mechanism as political sub-system, political doctrine. Study political concept and ideology, which influence government structure and political change including political behavior and international political problem.

SSC 251 – Principles of Jurisprudence 3(3-0-6)

Prerequisite: none

A study of the development of law, the meaning and importance of traditional and written law and the establishment, enforcement, and annulment of law. This study will include the general principle of civil law and criminal law.

SSC 261 – Human and Society 3(3-0-6)

Prerequisite: none

Study human behavior and human relationship, emphasizes on relationship with the others. Begin with the human nature, human environments, which cause human drive. Then study social organization, social structures, cultural reaction, and social symbols, (which are the basic of communication), social systems and event, which are met in everyday life, for examples, education, economics and political. To understand the objectives and social mechanism of social systems, which is the basic knowledge of criticism present social problems that will be criticized in the class by the method of social study.

SSC 271 – Managerial Accounting 3(3-0-6)

Prerequisite: none

Studies include basic accounting concepts and principles, forms of financial statements, and analysis of financial statement. Income measurements, valuation problems, analysis of sources and use of fund. Comparison between cost accounting and financial accounting. Types of budgets, illustration of master budget, sale forecasting.

SSC 272 – Production Cost 3(3-0-6)

Prerequisite: none

Basic concepts in marketing, market and market segmentation, classification of goods and services, marketing functions, institution and channels, market and environments, the changing market, consumer's buying behavior, and factors effecting consumer demand.

SSC 281 – Economics 3(3-0-6)

Prerequisite: none

Studies include basic of facts, principles, and problems of economics; determination of pricing analysis; national income allocation of resources; the

monetary and banking systems; problems of labor; economic instability; depression; inflation; and economic development.

SSC 311 – Buddhist Philosophy 3(3-0-6)

Prerequisite: none

Study about previous doctrine Pra Wate, and then, study Buddhist Philosophy, theory of ethics of relationship between individual and society.

SSC 331 – Human Relations 3(3-0-6)

Prerequisite: none

Studies include the development of background information for the specific studies of psychology and sociology; explorations into a better understanding of attitudes and human behavior in business and industry; effects of training; individual differences on job performance; training and selecting of supervisors; employer and employee communication.

SSC 333 – Industrial and Organizational Psychology 3(3-0-6)

Prerequisite: none

Studies includes the foundations of industrial and organizational psychology; individual differences and work behavior, motivation, attitudes, job satisfaction, communication, leadership, solving problems and making decisions, work stress, job analysis, recruitment and selection, psychological testing, and human resource development.

SSC 334 – Psychology of Adjustment 3(3-0-6)

Prerequisite: none

This is study of basic concepts of psychology to apply for living in a changing society. It will include personality, motivation, emotions, stress, body and health, self-concept, creating relationships and intimacy, marriage and mutual self-disclosure, sexuality, work and leisure, personal control and decision making, psychological disorders and therapy, adulthood and aging transition, and bereavement and death.

SSC 335 - Managerial Psychology 3(3-0-6)

Prerequisite: none

The study of the fundamental concepts of psychology and management of human behavior in an organization which will include psychological factors and their effects on human working behavior such as attitude, communication, social influences and motivation. Moreover, it will include organizational behavior modification, management of conflict. Leadership and organizational effectiveness.

SSC 351 – Labor Law 3(3-0-6)

Prerequisite: none

A study of principles of Thai law, its development, general condition of employment, labor relation, labor welfare, social security law and other related labor laws.

SSC 371 - Marketing 3(3-0-6)

Prerequisite: none

Studies include basic concepts of marketing and market segmentation; classification of goods and services; marketing functions; institutions and

channels; markets and their environment; changing markets; consumer buying behavior; factors effecting consumer demand.

SSC 372 – Personnel Management 3(3-0-6)

Prerequisite: none

The study of the concept of personnel management, the policy of personnel management, roles and functions of the manager and personnel manager and personnel management process from job analysis, personnel planning, recruiting and selection, training and development, performance appraisal at career development, compensation, maintenance of employee's security and safety, including personnel information systems.



Communication Design Program

4 Years Structure

Name of Program

Bachelor of Fine Arts Program in Communication Design

Degree

Full name: Bachelor of Fine Arts (Communication Design), English Program

Abbreviate name: B.F.A. (Communication Design)

The Objectives of the Program

This course aims to prepare graduating students for entry-level work as designers in the communication industries or in design-related fields. The course also provides the skills and knowledge necessary for further study in design and communication.

Specifically, the course aims to

- provide students with a grounding in and mastery of the range of processes and practices necessary to work creatively and effectively in a professional environment
- provide students with the theoretical knowledge and intellectual abilities necessary for informed and reflective practice in communication design
- provide students with the general and transferable skills needed to work creatively and effectively with others in various professional contexts
- provide students with a thorough understanding of the various contexts – psychological, social, cultural, theoretical – that will inform their work as communication designers
- provide a comprehensive education through the English language programme, and to develop graduates who are oriented towards the international market as well as prepared to contribute to the culture, welfare and reputation of Thailand

Program Duration

Completion of required credits for full-time program are to be made within a period of 8 semesters or 4 academic years, but not to exceed 16 semesters or 8 academic years.

Curriculum

Total Program Credits **142** credits

Curriculum Components

- General Education Courses 31 Credits**
- Social Sciences and Humanities Courses 13 Credits
 - Language Courses 9 Credits
 - Science and Mathematic Courses 9 Credits
- Communication Design courses 105 Credits**
- Communication Design Project group 9 Credits
 - Communication Design Principle 27 Credits
 - Theoretical, Historical and Cultural Contexts 18 Credits
 - Methods and Approaches 6 Credits
 - Tools, Technologies and Media 18 Credits
 - Professional Context 18 Credits
 - Communication Design Electives 9 Credits
- Free Elective Courses** not less than 6 Credits

Communication Design Program

Year 1

First Semester		
Code	Course	Credit*
ARC 117	Design Fundamentals I	4(1-6-8)
ARC 123	History of Art & Design	3(3-0-6)
CMD 141	Sketch and Rendering	3(1-4-6)
LNG 102	Fundamental English II	3(2-2-6)
LNG 103	Fundamental English III	3(2-2-6)
MTH 105	Mathematics I	3(3-0-6)
Total		19(11-16-38)
Summer Semester		
SSC 101	Physical Education	1(0-2-2)
Total		1(0-2-2)
Second Semester		
Code	Course	Credit*
ARC 118	Design Fundamentals II	4(1-6-8)
CMD 111	Fundamentals of Typographic Communication	3(1-4-6)
CMD 142	Technology for Text and Images	3(2-2-6)
LNG 104	Content-based Language Learning	3(2-2-6)
SSC 210	Man and Ethics for Quality of Life	3(2-2-6)
SSC 260	Introduction to Social Science	3(3-0-6)
Total		19(13-12-38)

Year 2

First Semester		
CMD 212	Visual Representation and Communication	4(1-6-8)
CMD 221	History of Communication Tools, Technology and Media	3(3-0-6)
CMD 231	Research Methodology	3(3-0-6)
CMD 243	Combining Media	3(2-2-6)
SSC 290	Environment and Development	3(3-0-6)
XXX xxx	Communication Design Elective I	3(x-x-x)
Total		19(12x-8x-32x)
Second Semester		
CMD 213	Communication with Sequence, Sound and Emotion	4(1-6-8)
CMD 222	Theory of Communication	3(3-0-6)
CMD 232	Design Methodology	3(3-0-6)
CMD 244	Interactive Prototyping	3(2-2-6)
MTH 275	Statistics for Scientists	3(3-0-6)
XXX xxx	Communication Design Elective II	3(x-x-x)
Total		19(12x-18x-32x)

Year 3

First Semester		
CMD 314	Communication and Interaction	4(1-6-8)
CMD 323	Design, Media and Culture	3(3-0-6)
CMD 345	3-D Simulation and Modeling	3(2-2-6)
CMD 351	Precedent Study	3(3-0-6)
CMD 371	Science, Society and Environment	3(3-0-6)
XXX xxx	Communication Design Elective III	3(x-x-x)
Total		19(12x-8x-32x)
Second Semester		
CMD 315	Communication with Form And Space	4(1-6-8)
CMD 324	Design Future	3(3-0-6)
CMD 346	Post Production Technology	3(2-2-6)
CMD 352	Professional, Legal and Ethical Issue	3(3-0-6)
SSC xxx	Social Science and Humanities Electives	3(3-0-6)
XXX xxx	Free Elective I	3(x-x-x)
Total		19(12x-8x-32x)

Year 4

Summer Semester+First Semester		
CMD 401	Communication Design Project Preparation	3(0-6-6)
CMD 453	Cooperative Study	9(0-0-40)
Total		12(0-6-46)
Second Semester		
CMD 402	Communication Design Project	6(0-12-12)
CMD 425	Psychology for Designers	3(3-0-6)
CMD 454	Communication Design Seminar	3(0-6-6)
XXX xxx	Free Elective II	3(x-x-x)
Total		18(x-24x-24x)

*Credit = Credit Hour (Lecture-Practice-Self Study)

Course Description

General Education Courses 31 Credits

Social Science and Humanities Courses 13 Credits

SSC 101 Physical Education 1 (0-2-2) Prerequisite: none

This course is to study and practice the sports for health, principles of exercise, care and prevention of athletic injuries, nutrition and sports science including basics skills in sports rules and strategy from popular sports. The students can choose one of several sports available, according to their own interest. This course will create good health, personality and sportsmanship in the learners as well as develop the awareness in etiquette of playing, sport rules, fair play and being good spectators.

SSC 210 Man and Ethics for Quality of Life 3(2-2-6)

Prerequisite: none

This course examines the concepts relating to progress in life and to the applicant of important and useful religious, philosophical and psychological content to life. The methodology of teaching and learning is based on the integration of knowledge gained from the humanities into practical problem-solving in the students' lives and into strengthening students' positive personal characteristics in the long term.

SSC 260 Introduction to Social Science 3(3-0-6) Prerequisite : None

The course is divided into three components. The first part deals with the study of humanity and society through the analysis of human behavior and human interaction. In addition, general aspects of human society, definitions and importance of cultural, cultural assimilation and social system, including current social problems and possible solutions, are also studied. The second part concerns with the study of social and economic system, including business enterprises, the Thai economy in the world arena. Thai economic policy, economic development and new development theory as well as fundamental economic issues and alternatives. The final part examines politics, government and law and focuses on the overall political structures, the interrelationship between citizens and the judicial system, the role of the Thai judicial system in society, including current problems and possible solution in political and judicial system.

SSC 290 Environment and Development 3(3-0-6) Prerequisite : None

This course covers the study of humans and the environment, including the meaning and significance of the environment, the value of the environment; the environment and development, including the environmental impact of development; the current causes and environmental problems, whether local

regional or global level; environmental conservation approaches using science and technology, ethics, law, and regulations; sustainable approaches for using natural resources, the tools and measures in solving environmental problems, including the application of local knowledge; environmental policy; and case studies on environmental issues.

Elective 3 Credits

SSC xxx Social Science and Humanities elective 3 (3-0-6)

Language Courses 9 Credits

LNG 102 Fundamental English II 3(2-2-6) Prerequisite: none

This course builds on LNG 101 by providing further strategy training, but also places a strong emphasis on the cognitive skills of the students. A wide range of cognitive skills are covered including logical, creative and critical thinking. These cognitive skills are dealt with through a series of English-medium tasks, which include simulations, e-mail correspondence and Internet projects. Students' language difficulties are dealt with as they arise thus addressing students' real needs. Covering all four skills, the content of the course includes occupational as well as academic English. To enhance autonomous learning skills, students are encouraged to learn independently using the Self – Access Learning Centre as well as e-mail, Internet and library resources.

LNG 103 Fundamental English III 3(2-2-6) Prerequisite: LNG 102

While also covering language and thinking skills, the main focus of this course is to prepare students to be able to fully participate and learn in an English-medium environment. In addition, the course enhances students' ability to take control over their future language development through metacognitive strategy training, including the abilities to set learning goals, to make realistic and practicable plans to reach the goals, and to implement the plans through self-access and other forms of independent learning. To help students benefit most from an English-language environment, the course aims to change their attitudes towards language and learning by building their confidence, enhancing risk-taking attitudes and motivating them to develop further by themselves. The course takes the form of a series of large-scale tasks, including simulations, self-access based tasks, and international e-mail and Internet based interactive oral projects.

LNG 104 Content-based Language Learning I 3(2-2-6)

Prerequisite : LNG 103

This course takes the form of a large-scale project, and thus simulates the stages undertaken in preparing and presenting research, from finding references to writing a final draft and giving an oral presentation. The course uses authentic content prepared in cooperation with staff from other faculties

Students will develop their understanding of the relationship between representation and perception and consider the roles that representations play in cognition and action. Students will also explore the relative roles of aesthetics and rhetoric in visual representation and communication.

CMD 213 Communication with Sequence, Sound and Motion 4 (1-6-8)

Prerequisite: CMD 212

The creation of meaningful audiovisual communication artifacts and systems. The module will outline principles of design with motion and sequence, for example: pacing, rhythm, transition etc. The module will also introduce some principles for the use of various kinds of sound information, for example: voice, music and recorded and synthesised 'noises'. Particular emphasis will be placed on the potential of narrative techniques as means of analysing existing and creating new artifacts.

CMD 314 Communication and Interaction 4 (1-6-8)

Prerequisite: CMD 213

Design principles for interactive artifacts and systems of various kinds. The module will focus on developing understanding of the relationship between users, objects and contexts of use. Students will learn about methods for needs identification and requirements capture, developing design concepts that meet these needs, prototyping and communicating these concepts. Students will also be introduced to some techniques for evaluating and testing their concepts.

CMD 315 Communication with Form and Space 4 (1-6-8)

Prerequisite: CMD 314

The role of form in the communication of ideas, concepts and functions. Students will explore the ways in which form might stimulate interpretation and meaning – semantics. They will also explore the concept of object affordances – pragmatics. The module will focus on the design of products that have both physical and virtual dimensions and those in which the interface is both embodied and representational.

Theoretical, historical and cultural contexts 18 Credits

This strand aims to develop intellectual, critical and analytical skills so that students can locate their practice in a range of contexts: historical, social, cultural, professional and theoretical. The modules will encourage students to interrogate and understand the various roles and functions of design and communication in contemporary life, the origins and development of these and their future possibilities. Whilst the strand is theoretical the emphasis is on establishing a contextual and critical framework that enriches and supports practice.

ARC 123 History of Art & Design 3 (3-0-6)

Prerequisite: none

The study of the development of man from Prehistoric times to the modern diversity of industrial needs using the widening range of materials and technologies to

satisfy the identified user needs in contemporary society. To include paradigm shifts in design philosophy. The study covers the impact of global industrial to Asian.

CMD 221 History of Communication tools, technology and media 3 (3-0-6)

Prerequisite: None

An historical overview of communication. In particular, it will focus on the development of communication tools, technology and media. Students will consider the impact that these developments had or are having on society and culture. The module will be structured around a series of case studies which might include, for example; tools-the pencil, the camera, the keyboard, the mouse; technologies/ media – print, the telegraph, the telephone, radio, television, and computer.

CMD 222 Theory of Communication 3 (3-0-6)

Prerequisite: none

A range of approaches to the study of human communication and design. Students will learn about information, semiotic, rhetorical and cognitive models of communication. They will then use these as tools with which to analyse and understand a broad range of design artifacts. Students will consider how these theories might help them in their own work as communication designers.

CMD 323 Design, Media and Culture 3 (3-0-6)

Prerequisite: none

The study of culture from both contemporary and historical perspectives Students focus on the ways in which design and media reflect, embody and communicate cultural trends/myths such as: taste; identity; lifestyle; region and nation. The module encourages students to explore two interlinked areas: theoretical and analytical approaches to the study of material and visual culture; design as a mode of cultural and economic production.

CMD 324 Design futures 3 (3-0-6)

Prerequisite: None

Emerging trends in culture, society, science and technology. Professional case studies will be used to show how design companies make use of such knowledge to add value to existing and create new and innovative artifacts (e.g. Philips, IDEO, Meta Design PLUS regional national examples). Alongside this, students will consider issues of professional and social responsibility (including: sustainability; ethics; inclusive practices; participatory design).

CMD 425 Psychology for Designers 3 (3-0-6)

Prerequisite: None

Develops and deepens understanding of psychological themes introduced earlier in theoretical and studio courses. Focuses on human-factors relevant on communication including perceptual, cognitive, physical and social issues. Lecture series is supported by short projects that explore theoretical themes in practice.

Methods and Approaches Group 6 Credits

CMD 231 Research Methodology 3 (3-0-6) Prerequisite: none

Studies on Research Design and Research Methods especially on Empirical Testing. This study includes how to use tools for collecting data on human behavior and environment such as notation, maps, tape record, photographs, and videotapes. Other research approaches such as interview, research setting might include in this study.

CMD 232 Design Methodology 3 (3-0-6) Prerequisite: none

Range of non-empirical user-centred design methods. These will include the use of scenarios and storyboards, enactment, paper prototyping, laddering, card sorting etc. The module will also require students to demonstrate their abilities to organise and conduct background research, analyse and evaluate findings and apply these to design.

Tools, Technology and Media Group 15 Credits

CMD 141 Sketch and Rendering 3 (1-4-6) Prerequisite: none

Studies include theories and techniques of free-hand drawing by using various media; i.e. pencils, pens, brushes, and other equipments with emphasis on visualization and expression.

CMD 142 Technology for Text and Images 3 (2-2-6) Prerequisite: none

Digital tools and techniques for the creation and manipulation of words and images. Students will begin by learning the fundamental of core software and hardware for digital publishing for page and screen. They will go on to learn about how these tools are integrated and used in professional practice.

CMD 243 Combining media 3(2-2-6) Prerequisite: none

The essential tools and techniques for the creation of audio-visual sequences. Students will learn the fundamentals of core digital software and hardware and related analogue techniques. Students will learn how these sequences are created and deployed in a range of media contexts e.g. CDROM, www, TV. The module will outline the key processes, structures and roles that support the use of these tools in professional contexts.

CMD 244 Interactive Prototyping 3 (2-2-6) Prerequisite: none

The essential tools and techniques for the construction of effective and engaging prototypes. Students will learn how to construct various forms of screen based prototypes such as animated walkthroughs and fully working interactive. They will be introduced to simple scripting techniques for sketching and modeling interaction.

CMD 345 3-D Simulation and Modelling 3 (2-2-6) Prerequisite: none

Three-dimensional modeling, animation techniques, shading and texturing, rendering, and simulations of the real-world visual effects in the virtual realm, for example: gravity, wind to create images that reflect the feeling and conditions happening in the real world.

CMD 346 Post Production Technology 3 (2-2-6) Prerequisite: None

Explores how digital special effects are completed and how the procedures are used today. Starting from the storyboard/ live action, students will end up producing the final composite.

Professional Context Group 18 Credits

CMD 351 Precedent study 3 (3-0-6) Prerequisite: none

This module, therefore, is based on in depth, student led case studies. The foci of these are particular communication design artifacts or systems. Working in small groups, students will select and research their chosen artifact before compiling a case study/research presentation that maps the development of their topic and the various stakeholders and organization involved. Students will develop an overview of the design process and be knowledgeable about the processes and stakeholders that turn a need / opportunity into a concept, a concept into a product, a product into an individual and social experience. At the outset of the module students will be taught basic research methods for case studies. Design seminars will focus of on the development of effective and engaging final presentations.

CMD 352 Professional, Legal and Ethical Issue 3 (3-0-6) Prerequisite: none

The key methods and approaches essential for effective professional practice. Studies include: pitching, billing, cost-estimation and supplier and client liaison. Legal issues cover intellectual property, contract law, regulatory codes and relevant national and international policies. Ethical issues will encourage students to consider the moral and social aspects of their work, including issues such as: representation of gender, class, race and age; inclusively, sustainable practices, social responsibility.

CMD 453 Cooperative study 9 (0-0-40) Prerequisite: none

This requires students to participate in communication design-related industries according to individual interest for six months. It allows students to see the working process in different organization, to develop responsibility and self-confidence from working with other people, to accumulate knowledge and direct experiences needed for their Communication Design Project (CPD) in the final semester. At the end of the program, students will be able to decide what kind of work they would like to participate after graduation.

CMD 454 Communication Design Seminar 3 (0-6-6)

Prerequisite: None

Discussion topics of this seminar are based on students' experiences in their co-operative studies. Students are required to present some interesting aspects of the studies to the class.

Communication Design Electives 6 Credits**CMD 214 Corporate Identity and Brand Strategy 3 (2-2-6)**

Prerequisite : None

An introduction to the theory and practice of design for corporate and brand identity. The class will locate contemporary ideas of brand and identity within historical and social contexts. The class will explore how identities are formed, how brands function, and the role of communication design within this process.

CMD 245 : Production Processes for Communication Design 3 (1-4-6)

Prerequisite : None

An introduction to the major production processes and methods used in the various aspects of communication design practice. The class will provide theoretical and on-site introductions to design processes for print, multimedia and three-dimensional/environmental design and ground these in practice through site visits and design workshops.

CMD 461 Design for Networked products 3 (3-0-6)

Prerequisite : None

Develops student's knowledge of and skills in designing for networked products and services. The existing and emerging technological structure of the Internet will be outlined and will inform subsequent practical work. Prototyping skills will be introduced so that students can model and communicate design concepts to professional standards. Topics covered will include; e-commerce: www information sites: networked appliances and services: mobile telephony and information services.

CMD 462 Media Studies 3 (3-0-6)

Prerequisite: None

Various theoretical methods for analysing and understanding the mass media: TV film and the press. Lectures will introduce the key tools and concepts such as thematic analysis, rhetorical studies. Semiotics and figuration. Students will develop analytical skills and the ability to uncover and understand the ways in which popular culture constructs meaning and communicates/shares this with its audiences.

CMD 463 Independent Study 3 (1-4-6)

Prerequisite: None

Self study in specific topic of individual interest with the approval and consultancy of advisors.

IND 211 Application of Colors 3 (1-4-6)

Prerequisite: none

Study of the physical, physiological, and psychological aspects of color. An investigation of various color systems. Introduction to Alber's theories of color perception. Historical influences of color in Thai culture. Including an application of color to Industrial Design. Principles of creative concept synthesizing technical problem solving and visualization.

IND 347 Applied Product Graphics 3 (1-4-6)

Prerequisite: none

Principles of graphic design that are applied to products. Application and integration of typographic and graphic elements in the design of three-dimensional forms.

IND 464 Entrepreneurship for Designers 3 (3-0-6)

Prerequisite: none

The ultimate goal of this course is to introduce design students to the understanding and application of business plan, descriptions of Marketing Plan, Management Cash Flow, Financial Plan. Studies include how to generate business plan. This course provides guidance, in overview, for students who would like to set up a small business. Essential topics in small business management and entrepreneurship. Using an abundance of real world examples, and practical hands-on exercises and activities, it provides a real world approach that follows a logical process.

CMM 371 System Analysis and Design 3 (3-0-6)

Prerequisite: none

Basic principles in information system analysis and design. Studies includes techniques and tools used in the processes of developing information system for existing operational system, including design and evaluation methods.

CMM 372 Database Management System 3 (3-0-6)

Prerequisite: none

Studies include information system and database management, relationship between computer and data communication, hierarchical models, network models, relational models, database normalization, query language, data security, data retrieval and types of database system.

CMM 373 Data Communication and Telecommunication 3 (3-0-6)

Prerequisite: none

Elements and relationship between computers and data communication. Development of telecommunication and computer technologies. Standard and organization involving computer networking system. Software and hardware used in a network development and trends related to data communication in a computer network. Introduction to Internet.

CMM 481 Multimedia Technology for Mass Communication 3 (3-0-6)

Prerequisite: none

Studies include technologies, tools and equipments for mass communication. Influences of different types of mass communication. Media planning and management for broadcasting and publications.

EDT 338 Mass Communication 2 (2-0-4)

Prerequisite: None

mass media.

EDT 343 Advertising and Public Relations 2 (1-2-3)

Prerequisite: None

Basic concepts of advertising and Public relations: meaning, importance, roles, planning and management. Various techniques in using media and special events for public relations and advertising.

PRT 455 Screen Printing Technology 3 (2-2-6)

Prerequisite: None

Principles and techniques of stencil-screen making: industrial use of screen printing including textile printing, package printing, paper and plastic printing: multi-color screen printing: determining appropriate use of printing material and ink for a specific purpose.

Free Elective Courses not less than 6 Credits



Facilities

KMUTT School of Architecture and Design offers many resources and services to students. These facilities have been specially designed to meet a full range of student needs. The architecture building contain of studio rooms, lecture rooms, a multi-purpose auditorium, computer labs, workshops, a library, a stationary store, a coffee shop, a canteen and environmental technology labs, etc.

Computer Labs

The SoA&D has provided computer facilities and networking to serve all SoA&D's members. There are 3 computer labs available for students located on the 3rd floor at room number 335, 336, and 337. The labs provide PCs facilities for word processing, spreadsheet, authoring tools, and general or specific graphic applications. In addition all computers provide access to Local Area Network (LAN) resources, Internet connection, and also printing and scanning services. Documents and data stored on floppy disks, CD-ROM, or any spaces provided in the LAN server can be accessed from any computers. There are a number of wiring network ports and also wireless network through out the building.

Lab services

There are currently 3 computer labs for different usages as follow:

Room no 335:

The lab provides multipurpose computers for students such as graphic works, word processing, Internet access, and scanning. The lab is always available for every working day.

Room no 336:

The lab is located in the center room and it is also an office of computer staff. There are various special computer resources such as network printers, color and laser printers, sticker cutting machine, and large-scale printers. Students need to pick up the printed-outs from this room. Computer staff is available for technical help during the office hours. In the case that you want to use a large-scale printer, you need to contact the computer staff beforehand.

Room no 337:

This room contains 25 graphic computers with CD writers. Any courses related to computer class normally use this room. Students can access the lab during the working hours **unless there is a class** (please see the room's schedule).

Room no 320 (Self Access Learning Center):

This room contains 20 multimedia computers for English center of the school. Student can access the labs during the office hours.

Service time:

Labs open from 08:30am–16.30pm of working days.

Staff's Contact Information:

- Aj.Jitdhikorn Sundarasaradula
e-mail: ijitdula@kmutt.ac.th
- Ms.Pradab Chainork
e-mail: pradab.cha@kmutt.ac.th
- Mr.Praseart Suksaenkraisorn
e-mail: praseart.suk@kmutt.ac.th
- Mr.Pisit Tangpitsityothin
e-mail: pisit.tan@kmutt.ac.th

Place: Room 336, Phone: 0-2470-9939, Internal Call: 336

Labs Policy:

1. Each user must be a member of the SoAD.
2. Food and drinks are not allowed
3. Dress properly.
4. No smoking / No gaming.
5. Users must log off before leaving the lab.
6. Do not move or rearrange any equipment.
7. Installing personal software on computers is strictly prohibited.
8. Inform the lab personnel on duty of hardware / software difficulties. Users should not attempt to solve these problems by themselves.
9. Files stored on hard disk drive and Share Space on the network drive will be deleted weekly.
10. The labs are study areas, please be considerate for the others.
11. All equipments are used for academic purposes only.
12. Lab personnel will not be responsible for left disks or any other left items in the labs.
13. Obvious disregard of listed policies may result in the loss of facility computer use privileges.

Presentation equipment Services.

The school provides 5 lecture rooms which are equipped for multimedia presentation, located on the 4th floor, at room 403, 404, 409, 410 and 411. There is a set of audiovisual equipment, a computer set, and an LCD projector. Students can use these equipments for their presentations on any particular class.

For other activities, students must contact their instructor or computer staff for permission.

*** In the case that students need to have their presentation at any other locations other than the 5 mentioned lecture rooms, they must contact computer staff at least 3 days in advance.

Network System (Local Area Network)

As all computers are linked through the LAN system. All computer resources such as files and printers can be shared and operated by the Novell NetWare and Windows XP. In order to use shared resources, username and password are required. Brief information of the SoA&D's LAN system is as follow:

Operating System:

All computers that are in the LAN system use the Novell NetWare software to operate all network resources. Windows XP professional is a standard operating system for workstation installed onto all computers for graphic use in labs. Windows 95/98 was installed into some computers for other purposes.

NetWare username and password are required for logging onto any computers in the school. All students can contact the computer staff at room no 336 to receive their NetWare usernames and passwords.

Account Information:

- Each student has 10 MB in home directory path; `:\Architect2\data\students\Year47\«UserName»`
- Carefully safe your password.
- Use a password that cannot be guessed easily.
- Do not share username and password with others.
- Do not use a username and password that has not been assigned to you.
- Log off every time before leaving the lab.

Wireless LAN

The High-Speed 2.4GHz wireless access points (802.11g standard) are installed over the building, students need to contact computer staff for a permission to connect to the wireless system.

Printing:

Network printers (shared printers) are provided in room no 336 for schoolwork only. All printing tasks will be automatically recorded and counted by the system up to the quota given for each semester. Students need to pay for printed-outs that exceeded the quota. And also need to pay for every page printed out from the large-scale printers.

The network printers are shown in the printer list of each computer. The printer name is labeled at the printer machine; user must specify the printer name before printing.

These are network printers available as follows: two A3 size B/W laser printers, one A4 laser printer, tree A3 color Ink printers, and two A0 Color Ink printers.

Scanning:

Students have full access to use any computers that are connected to a scanner. There are 3 flatbed scanners with the feature of positive and negative film scanning available at room no. 335. It is students' responsibility to back up picture data from the PC connected to a scanner, by burning them onto the CD-R.

Internet system:

Internet at Bangkhuntien campus is connected to the Internet at the main campus, Bangmod, via

Microwave signal. Students can access the Internet system from computers in the Labs provided.

Internet account of KMUTT system (Modem dialing password or e-mail account) will be provided by the KMUTT's computer center, every student will receive this account within a month after the beginning of the 1st semester. There are 10 MB storage space for mailbox and website for each student provided by the Computer Center of the University. Students must be responsible for the storage of their own files. In case students have any problems accessing KMUTT's internet system, they need to contact the Internet Service Center of KMUTT at computer center on the 1st floor, at room CB 2, Bangmod Campus, or call 0-2470-8261-2.

24 hour Internet Service of KMUTT is available at 1st floor, Classroom Building 2 ('Larn-Daeng' as known by KMUTT students) at Bangmod campus. Student must show their student ID cards for verification.

Web Information

The public URL address is
<http://www.arch.kmut.ac.th>

The intranet URL address is
<http://mysoad.arch.kmut.ac.th>

Library

The Library situated on the 2nd floor of the building. We use the LC System (Library of Congress), which is one of the best systems in the world. The collection consists of about 5,000 books and 72 current periodicals. There are 4,000 books in English language and 1,000 books in Thai language. There is also collection of Thesis books from students who have graduated during the years 1998-2000.

The Library provides a broad range of information services, including video collections, CDs, newspapers, a photocopier, etc.

Open hours

- During first semester and second semester
Monday – Friday 09.00 am. – 17.00 am.
- During summer semester
Monday – Friday 09.00 am. – 16.30 am.

The following School of Architecture and Design users are entitled to use the library

- Registered students of School of Architecture and Design
- Instructors of School of Architecture and Design
- Staff of School of Architecture and Design
- Outsider

The following School of Architecture and Design members are entitled to borrow materials from library

- Registered students of School of Architecture and Design
- Instructors of School of Architecture and Design
- Staff of School of Architecture and Design

Requirements for being a library member

Student

- KMUTT Student ID card
- SoA&D Student card

Instructor and Staff of School of Architecture and Design

- SoA & D Card

Borrowing privilege

General book

- Student member can borrow 3 items per 7 days
- Instructor can borrow 7 items per 30 days
- Staff can borrow 7 items per 15 days

Reserved book

- Everybody can borrow 1 item per one night by borrowing after 14.30 am and return before 10.00 am on next day.

Audiovisual material

- Everybody can borrow 3 items per 3 days.

Periodicals both current issue and back issue, special material such as maps, aerial photos, site plans, blueprints, etc.

- cannot be borrowed.

Borrowing Rules

1. A member's card is non-transferable,
2. The members are responsible for materials checked out on their card, and they are to pay for any charge for lost or damaged books checked out on it. No book may be checked out without the card, and no material will be checked out on a card showing an overdue item.
3. In case of loses of library card, member must report to the Circulation Counter immediately to prevent unauthorized use of the card. After the report they may obtain a new one from the School one week and must pay 100 baht for a fine.
4. The same borrower is allowed two renewals of borrowed materials, if there are no other borrowers for the same materials and after that borrower must wait one week before borrowing again
5. In case of loss of borrowed materials, or missing of some pages in the materials, the borrower must report and pay twice the costs of the materials.
6. If the book is overdue after two weeks, the library will send out the first claim notice. The second and the third notices will follow at every two weeks interval. If a borrower fails to return the books after the third notice, the Library will cancel his right to check out every library materials and he will lose the privilege of holding the library card.
7. If the overdue fine is over 100 Baht, the library system will cancel his right to check out every library materials.
8. The member must return book before final examination.
9. Circulation services cease ten minutes before closing time.

Overdue fine

Student

- General book and Audio Visual material :
5 Baht per item per day
- Reserved book :
10 Baht per hour

Instructor and staff

- General book and Audio Visual material :
20 Baht per item per day
- Reserved book :
20 Baht per hour

Courtesy in the Library, Every member is expected

- To dress properly (not short pants) and behave responsibly.

- To leave bags or briefcases with the library staff on duty. The Library will not be responsible for any damage or loss of valuable items.
- To switch off your mobile phones and pagers.
- Not to make loud noise or do anything that would disturb others in the Library. Complete silence shall be observed in the reading rooms.
- Not to smoke/bring any food or drink into the Library.
- Not to reserve seats.
- Not to remove or tear out any pages from the books.
- To allow the library staff on duty to inspect all books and other items to be taken out of the Library. The Library may withhold the rights of any person who is found guilty of breaking any or all of the above rules.

Self-Access Learning Center

The Self-Access Learning Center (SALC) at Bangkhuntien Campus was established to promote the self-study of the English language by providing study and self-access materials, moral and technical support, and guidance for students and staff of the School of Architecture and Design. Located as part of the School's Library, on the third level, the space is divided into four areas, namely, the sound-lab, the study-reading area, the counseling corner and the satellite and video section.

Workshops

The workshops provide a wide range of services for almost every types of production from wood work, plastic work, metal work, setup form from molding to cut out modeling by computer (CNC). The staff will advise and demonstrate how to control the machines with safety.

Wood Workshop

Wood Workshop has been equipped with the following machines;

Table Saw / Band Saw / Radius Saw / Belt Sander / Disc Sander / Drill press / Jointer / Planner

Metal Workshop

Metal Workshop has been equipped with the following machines; Gas Welding Machine / Electric Welding Machine / Metal Sheet Folding Machine / Milling Machine / Tube Roller / Spot Welder / Lathe Machine / 17" CNC Milling Machine / Grinding Machine

Plastic Workshop

Plastic Workshop locate in the same area with Wood Workshop, has been equipped with; Automatic Vacuum Machine / Jig Saw / Handheld machine tools

Shop Hour

9.00am – 12.00pm

13.00pm – 18.00pm

Monday – Friday

Opening the shop over-time, student should contact the admission office to obtain the permission from school in advance.

Over-time expense at student own responsibility.

In order to protect everyone from having an injury, shop rules should be followed with no excuse. Student who fails to follow all following rules will be not allowed to use the shop.

Model Shop Rules and Regulations

1. Students should follow the shop regulation in order to use the shop machine
2. No sandal or open toe shoes allowed
3. Wearing shop suit at all time
4. All guards shouldn't be removed from the machine
5. Do not play in the shop
6. Consult shop monitor if you feel not safe using the machine
7. Check-out form must be filled before any tools will be allowed to use and/or check out from the store
8. Student ID is required for check-out tool
9. All tools that has been check out from the store must be returned after used in the same condition with student responsibility. Lost and damage tools will be charged to student. Student who failed to return the tools by the end of semester **will not be allowed to register for the next semester**
10. Check the machine and tool before use
11. All tools and machines that has been used, should be cleaned after used
12. Working area should be cleaned after used
13. Shop monitor has the right to deny the access of any student
14. Safety equipment must be used during using the machine
 - o Goggles with all machine
 - o Mask / Gloves
15. On any kind of spinning machine, make sure that nothing was attached to the machine before operated
16. To buy any materials from the Shop Store,
 - o Check the price from Shop Monitor
 - o Fill in the Purchasing Form
 - o Pay at the office
 - o Check out your materials from the shop
17. All **ID students are required** to pass the Annual Shop Training and model-making classes while for other programs is an optional.
18. Only 2nd year ID student will take the training session as a requirement from the program. For other programs is an optional (training session up on request from the program).
19. Only students who have passed the safety training **will be allowed** to use the shop.
20. Qualified student will get the shop suit with verification badge for shop qualification.
21. Student who makes any fatal mistakes regarding safety issue will be recorded on the badge.
22. Up to **3 mistakes** are allowed (depend on how serious of the problem), student who makes three or more mistakes, must **retrain** the training session again next year and
23. will not allowed to use the shop for working until he/she can get the badge back.
24. For 1st year student, **only hand tools** are allowed. If student needs to work with machine tools, The Technician or Shop Monitor should be asked for help.

A/V Services

Support and services the audio and visualize for the instructions of the School of Architecture and Design.

The opening hours

Monday – Friday 8.30 – 16.30 p.m.

Contact A/V officer

Place: Room 407, Phone: 0-2470-9926, Internal Call: 407

Rules for the A/V equipment

1. Instructors and students who wish to use A/V. equipment for presentations or working on the subject must fill in “a request form”
2. Student must obey the instructions of A/V officer.
3. Instructors and students have a period of borrowing any A/V equipment - 3 working days
4. One day notice have to be given in order to borrow.
5. In case of all those who want to use the special A/V equipment, such as Digital Camera, Digital DV cam, or audio equipment they must have a permission by there advisor and fill in “a request form” to use the A/V equipment, and can not bring it out of school.

Requirements for borrowing the A/V equipment

- SoA&D card for student
- SoA&D card for instructor.
- In case of lost or the damage of A/V equipment must be reported to A/V officers for implementation.

Rules of the Lecture Room.

1. Do not move or remove any part of A/V equipment.
2. Do not change the position of A/V equipment.
3. Do not bring foods or drink into the Lecture Room.
4. Do not smoke.
5. In case of the A/V equipment problem, please contact the A/V officer.
6. Student must obey the instructions of A/V officer.

Rules of the Auditorium Room.

1. Instructors and students who wish to use the Auditorium Room and A/V. equipment for presentations must fill in “a request form” to use the A/V equipment.
2. Do not move or remove any part of A/V equipment.
3. Do not bring food or drinks into the Room.
4. Do not smoke.
5. In case of the A/V equipment problem, please contact the A/V officer.

6. Student must obey the instructions of A/V officer.

Rules of Photo Lab and Dark Room.

1. Instructors and students who wish to use Photo Lab and A/V. equipment for the jobs of subject must fill in “a request form” before use.
2. No smoking.
3. In case the A/V equipment problem, please contact the A/V officer.
4. Do not bring food and drinks into the Dark Room.
5. Student or user who want to use the equipment in the darkroom must obey the instructions of A/V officer.

Laboratories

Our school also focuses on performing experiments in the laboratories. The objective is to make the students learn by experience with real things in the lab.

Lighting Lab

The Lighting lab is the lab that deals with the environmental technology experiments dealing with factors such as color of light, color temperature, daylight calculation, illumination of lighting fixtures, etc

Human Factor Lab

The Human factor lab provides facilities and devices that enable students to explore the process of product design. It helps students to understand the interaction between the product and the user by experimenting.

Multi-purpose Auditorium

The auditorium is equipped with: 150 seats, that can be removed whenever needed, an LCD 300 inch monitor, microphones, a projector, a VCR, a computer and other multimedia devices. (*Facility Using Form is required*)

Using Facilities Overtime

All facilities can be used overnight except all shop facilities that will be allowed until **midnight only**.

Appropriate form must be filled and signed by the authorized lecturer **one week prior** using the facilities.

Technician overtime fee will belong to student responsibility.

Stay over-night in the studio for working is available. Request Form to stay over-night is required (contact SoA&D one week in advance).

Transportation

Mini Buses and Vans have been provided to serve between Bangmod and Bangkhuntien Campus and Rama II Road and Bangkhuntien Campus for every 30 minutes (schedule is available at the dean's office).

Accommodation

University Dormitory is available for all students. Due to the limitation of room, student who live outside of Bangkok have the priority on the list. Lottery system will be used if the number of student on the list is greater than the available room.

Private Dormitory / Apartment are available around Bangmod campus (contact dean's office for the list)

Bangkhuntien Dormitory will be available in the year 2005



Faculties

Full Time Faculties

Assoc.Prof.Dr.Kraiwood	Kiattikomol Acting Dean of School of Architecture and Design
Dr.Jayada	Boonyakiat Acting Deputy Dean for Academic Affairs
Mr.Jitdhikom	Sundarasaradula Acting Deputy Dean for Administration and Planning
Ms.Budsakayt	Intarapasan Acting Deputy Dean for Students Affairs and Foreign Relation
Dr.Chanyaporn	Chuntamara Acting Deputy Dean for Research
Ms. Waraluk	Pansuwan Chair of Architecture Program
Mr.Kwanchai	Athikomrangsarit Chair of Interior Architecture Program
Dr.Chujit	Treeratanaphan Chair of Industrial Design Program
Assoc.Prof. Nigel	Power Chair of Communication Design Program
Dr.Acharawan	Chutarat Chair of Building Technology Program
Ms.Apinya	Limpaiboon
Mr.Ekawat	Ophartongsakorn
Ms.Daranee	Lehatonen
Mr.Graeme	Bristol
Assoc.Prof.John M.	Strite
Mr.Jung Chul	Hur
Dr.Kanjane	Budthimedhee
Mr.Michael Paripol	Tangtrongchit
Assoc.Prof.Michael R.	Mealyer
Mr.Michael	Skolnick
Ms.Nantana	Boonla-or
Mr.Nimit	Mengvaha
Mr.Pattarapol	Chankham
Ms.Pornpak	Ruangrueang
Mr.Pornthep	Chatpinyakooop
Mr.Pote	Nilsa-ard
Ms.Purachat	Panjaka
Dr.Sakol	Teerawaranyou
Ms.Sareena	
Ms.Siriporn	Chatratana
Ms.Supawadee	Boonyachut
Mr.Thayuth	Thongpan
Mr.William Henry	Orr
Ms.Woranooch	Leelapattanaputi

Part Time Faculties

Assoc. Prof. Kusuma	Dhamdamrong
Dr.Pantipar	Tingsabhat
Assoc.Prof.Boonsanong	Rattanasoontrakul
Assoc.Prof.Ekapong	Chulasanie
Assoc.Prof.Chawalit	Nitaya
Dr.Rapit	Suvanajata
Dr.Visarut	Phuengsoondara
Maj.Krittiyak	Chanaket
Capt.Kamthorn	Kirithamai
Mr.Yongyutt	Likitcharoen
Mr.Tanong	Srisommai
Ms.Boonma	Sathapatayavongs
Mr.Stefan	Schlau
Mr.Sakda	Songsrivisuth
Mr.Wirote	Tessalee
Mr.Kitti	Ongarphanchai
Mr.Nipat	Samittikanon
Mr.Rit	Kasetsuwan
Mr.Foo Kwee	Chong
Mr.Krisnapol	Wattanawanyoo
Ms.Orada	Singhadachachai

Dean's Office Staff

Ms.Wuntana	Parkthin	School Secretary
Ms. Yaowares	Chanpajit	Document officer
Ms. Charupan	Rodthong	Academic Service Officer
Ms. Yaowaluk	Dara	Academic Service Officer
Ms. Phattana	Intachai	Policy and Planning Officer
Mr. Chai	Sunyavivat	Foreign Relationship Officer
Ms. Jirawan	Wongwattanapikul	Procurement Officer
Ms. Duangjai	Pengsuk	Financial Officer
Mr. Nutthapon	Thongcharoen	Public Relation Officer
Mr. Niran	Yomtiengtae	Audio Visual Technician
Mr. Sirichai	Sartsin	Supporter
Ms. Phakamart	Rittichai	Building Technology Program Coordinator
Computer Service		
Ms. Pradab	Chainok	Computer Support
Mr. Prasert	Suksankraisorn	Computer Support
Mr. Pisit	Tangpitsityothin	Webmaster
Library		
Ms. Woranee	Sainumkhaew	Librarian
Mr. Surasak	Budsri	Librarian
Workshops		
Mr. Pisarn	Suangchang	Workshop Technician
Mr. Arkhom	Thangchan	Workshop Technician
Mr. Panyaporn	Tung-ngern	Workshop Technician
Mr. Panom	Chaipho	Gardening

Consulting Advisors for the Academic Year 2004

Architecture Program

1 st Year Students	Aj. Waraluk Dr. Kanjane	Pansuwan Budthimedhee
2 nd Year Students	Aj. Jitdhikorn Aj. William Henry	Sundarasradula Orr
3 rd Year Students	Dr. Acharawan Mr. Graeme L.	Chutarat Bristol
4 th Year Students	Aj. Supawadee	Boonyachut
5 th Year Students	Aj. Apinya	Limpalboon

Interior Architecture Program

1 st Year Students	Aj. Thayuth	Thongpan
2 nd Year Students	Aj. Budsakayt	Intarapasan
3 rd Year Students	Aj. Sirporn	Chatratana
4 th Year Students	Aj. Kwanchai	Athikomrangsarit
5 th Year Students	Dr. Chanyaporn	Churtamara

Industrial Design Program

1 st Year Students	Dr. Chujit	Treeratanaphan
2 nd Year Students	Dr. Sakol	Teerawaranyou
3 rd Year Students	Aj. Pointhep	Chatpinyakoo
4 th Year Students	Aj. Nanthana	Boonla-or
5 th Year Students	Aj. Woranooch	Leelapattanaputi

Communication Design Program

1 st Year Students	Aj. Jung Chul Hur	
2 nd Year Students	Assoc. Prof. Nigel	Power

Activity Advisors for the Academic Year 2004

Architecture Program:	Dr. Jayada Boonyakiat
Interior Architecture Program:	Aj. Thayuth Thongpan
Industrial Design Program:	Aj. Nanthana Boonla-or
Communication Design Program:	Dr. Chujit Treeratanaphan

Contact

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