Elective Courses for Semester 1/2021

21 July 2021

ARC 484 Environmental Technology IV: Energy-Efficient Building Design Techniques and Simulation 3(3-0-6)

Prerequisite: ARC 383 Environmental Technology III

The main focus is on energy-efficient building design techniques and evaluation: definition of sustainability, climate change, global warming, and natural disasters, reasons to conserve energy, definition and strategies of energy-efficient buildings, energy sources: renewable and non-renewable, energy consumption including carbon footprint and carbon credit. Architects' role in energy conservation are included into an advanced level towards the links between the micro/macro environment, energy and building form and reviews the development of building skin. The state of the art in building energy conservation evaluates via the use of environmental design software and assessment of climate data, the simulation of solar, ventilation, thermal and lighting processes in-and-around real-or-virtual buildings with minimum use of non-renewable energy sources comparing to building codes and regulations. Operation and maintenance will be taken into consideration as well as life-cycle cost analysis.

ARC 451 Special Topic: Field Research 3(1-4-6)

Introduction of field survey; information gathering, scrutiny, analysis, diagramming, finding and structuring for the correlation of each information, and understanding urban/social issue from various aspects. The course is originally planned focusing on urban poor area with the support of on-site foundation and external institution. In addition, by giving lectures by researchers and activists from external resources, introduce specific examples of activities that this type of study leads to, and understand the wide range of activities in the fields of architecture, design, and art on a global scale.

Based on the recent situation and the above basic contents, the field survey is changed to digital data collection, and, is conducted for this semester. As an advantage of this, the course will be focused on handling information in a large framework, correlation between information, and derivation from it.

All the activities of the course are limited to the lecture time only.

Learning Objectives

After successful completion of the course, students will be able to

- Conduct on-site information gathering (acquisition of digital data this semester)
- Apply skill of information scrutiny, analysis and diagramming
- Understand and develop the skill of structuring the correlation of various information and handling it
- Apply the knowledge and understanding of the various range of urban scale project for their own future project

Measurable Outcomes

- Gather, scrutinize, analyze information by producing a graphical presentation and report project
- Construct a logical thinking in small exercise
- Contribute to the course discussion through group-work workshop or activity in class

ARC 452 Special Topic: Smart and Sustainable KMUTT 3(2-2-6)

Students will explore the relationship among everyday life, design, living/learning environment at KMUTT, Bangmod and Bangkhuntien Campuses. Study is divided into three phases: firstly, by observing, discussing, and analyzing current life of KMUTT stakeholders in all activities in depth; secondly, by researching and discussing potential tools, sustainable technologies in supporting life and education; and finally, by proposing possible life, digitalization, and environmental design for smart + sustainable future KMUTT.

Learning Outcomes:

1. Outputs contain overlooked knowledge about how designed things – transportations, products, and environments – were experienced and understood in everyday life at KMUTT via observation.
2. Develop technological skill and team working skill by discussing with technology providers, teams and other disciplines to seek for information/target, to work together.
3. Analytical skill by gathering data, compiling, analyzing, comparing to make decision for what could be possible outcomes.
4. Develop new form of knowledge and innovation through re-editing and contextualizing processes for sustainable future KMUTT

ARC 453 Special Topic: The Story of House Design in Contemporary Issue

3(3-0-6)

House is one of the fundamental elements for living. Design knowledge plays a significant role in shaping people for a better quality of life. This lecture-based class would focus on the various topics that contribute to understanding movement and development in contemporary house design issues. The subject would be divided into three majors groups of topic

1. Past Concept: the case studies from various projects had major significant movement in house design concept
2. Present Design Movement: situation and topic that has a direct impact on the new proposal of house design such as Aging Society, Energy Plus Design, Sustainable Design
3. Future trend: the discussion on future direction in residential design solution such as A Modular House Design by Muji brand, Micro-living trend, ADU (Accessory Dwelling Unit or Plug-in House)

*** This class is a free elective which open for all design programs. See the course details on the last part.**

INA 452 Exhibition Design **3(1-4-6)**

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.

INA 455 Special Topic Study: Adaptive Heritage Reuse **3(1-4-6)**

This subject examines the history and theory of historic preservation, focusing on Thailand, but with reference to traditions and practices in other countries. The class is designed to examine the largely untold history preservation movement in this country, and explore how laws, public policies and culture attitudes. The class will give students a grounding in the history, to theory and practice of historic preservation, but is not an applied, technical course.

INA 456 Special Topic Study: Criteria and Design **3(1-4-6)**

Study critical thinking of design goals, perspectives, methods, agenda, and related fields. Learn the logic of criteria through programming in various situations, contexts, and conditions. Understand and realize the consequence in design process to determine the design direction

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IND 232 Craft Product Design **3(2-2-6)**

Principles of handicraft and industrial craft design. Aesthetics, values, design and making processes of handicrafts. Exploration of materials and techniques.

IND 255 Model Making **3(1-4-6)**

Prototyping product concepts for design development and communication. Materials and techniques of model making. Types of model: mock-ups, models and prototypes. Workshop safety.

IND 336 Toy Design **3(2-2-6)**

Toy design for different age groups of children. Types of toy. Children development. Research, design and manufacturing for toys. Rules and regulations regarding toy safety. Toy testing. Current market trend.

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

Graphic design on software and hardware products. Two and three dimensional graphics. Graphics on packages. Product brand, identity, image, styles, form and functionality in product graphic design.

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

Analysis of products serving same function in terms of product attributes, product properties, product appearance, product identity, product differentiation, manufacturing, marketing, consumers, design direction, tradition and culture influencing design. Application to design.

CMD 216 Practice in Drawing **3(2-2-6)**

Introduce drawing as a fundamental form of Art, emphasizing the practice in conceptual and experimental sense. This class introduces hands on skill, handling of drawing tools and paper materials by Artist.

CMD 317 Advanced Practice in Motion and Sound **3(2-2-6)**

Introduction to motion and sound media. Understanding of design and communication. Practice advanced technique for combining sound and image. Experimental techniques for sound and video recording. Explore audio visual genres.

CMD 333 Screenwriting **3(1-4-6)**

A practical introduction to the art and craft of screenwriting. Basic elements and principles of screenwriting, such as: synopsis, treatment, characterization, dialogue, visual writing, story paradigm, storytelling strategies, and narrative structure, as well as film conventions and theories are introduced. This course locates screenwriting within the context of cinema production specifically, as well as within the arts as whole. As an outcome students produce short works written in conventional screenplay format.

CMD 361 Special Topic Study: Introduction to Printmaking **3(1-4-6)**

This course covers the distinctive nature of printmaking including: tools, inks, paper, plate preparation, registration, printing processes and qualities of prints e.g. overlays, transparency, offset. The goal is for students to gain the skills and confidence to produce multiple images by hand printing and on a press while exploring visual expression. Hand printmaking techniques will engage the student with problem solving in drawing, design and color. Topics may include editions, suites and designation systems. Class sessions will comprise independent and collaborative printing and, lecture, demonstrations, discussion, and critique.

CMD 362 Special Topic Study: Content creation for Social Media **3(2-2-6)**

Explores how to create content across different social media platform based on video, audio, written and images. Learning how to use tool such as blue screen, camera gears, and multimedia software. Strategy of content creation for live broadcasting, webinar, product reviews and on-line marketing.

CMD 364 Web Design **3(2-2-6)**

This course introduces students to the web design and development lifecycle. The course focuses on theory, tools, techniques and standard in the design phase including layout design, interface design, components of web e.g. typography, color, media, contents, etc. It also covers the standards and trend in modern web design such as responsive web design (RWD) and other modern concepts in web design. The practical exercises cover the usage of tools and techniques in design a web including the implementation of design into a real web site using a current available instant web implementation tools.

CMD 365 Web Development for Designer **3(2-2-6)**

This course introduces students to development concepts, processes, standards, tools, and techniques that use to create a modern web site. The course includes practical exercises on creating web pages using modern concepts, tools, and techniques.