

Code	Elective courses	Credit	Year	Semester	Course Description
UP1507	2D Computer Graphics	2	1	1	Two dimensional computer graphics is the most fundamental tool and skill in all fields of the design profession in recent years. This course aims to train students to become skillful with basic operations and applications of both raster-based and vector- based 2D computer graphic tools.
UP1510	Spatial Composition	2	1	2	“Space” is a basic unit of physical environment. From spatial geometry and cognition, this course introduces the composition principles of the built physical environment form. By innovative teaching activity, this course leads students to develop the studying attitude of observation, question, and investigation.
UP1511	Introduction of Architecture	2	1	1	Architecture as an important artifact in environment should be acknowledged as the base of environmental design. This course introduces basic concepts of various aspects of architecture and basic design principles.
UP2004	Real Estate Management	2	4	1	In this class, I’ll make you understand the basic concepts, the related laws and regulations of real estate operation and management. By learning from some case discussion, for example, real estate investment, reasonable tax deduction by

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					real estate operation, dispute solution, etc., you'll get more and more interested in the field of real estate.
UP2502	Dynamic Digital Media	2	2	2	With the advent of information technology, the media used to present a design or planning project is longer limited to papers. Using computer display or projector to show a multimedia, or even interactive version of a project's design or plan is getting popular in the practice. This course is to provide students an opportunity to be acquainted with those dynamic digital media. The course will introduce the basics of video editing and 2D computer animation, and let students become familiar with related software packages through practicing in term projects.
UP2503	Environment Survey and Mapping	2	2	1	The course aims to enhance the ability of sensibility on the environment as a whole and the components of the environment via practical practices, so as to familiar with the methods and skills on environmental survey.
UP2504	Environmental Ecology	2	2	2	1.To promote the thinking of that" people need to live harmonically with nature and to enforced the concept that people play the dynamic and important role in the eco-system. 2. To let students know how to analyze the formation of landscape pattern and introduction on the

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					energy I flow in the system and the interaction between species. 3. To guide students to understand the basic principles of ecology and lead them to think of the course and effects of environmental factors. 4. To introduce the basic principle of ecological engineering.
UP2506	Urban Engineering	2	2	2	The extent of Municipal Engineering is so wider that there are not special books to describe it. In this course, every respect of engineering concerning about urban infrastructure is collected in accordance with the theme of advance examination and research institute in order that students can pass every kind of examination. The syllabus conclude public facilities, site investigation, communication and transportation, environmental engineering, water supply and drainage engineering, environmental impact assessment, conduit engineering, soil and water conservation engineering, urban disaster prevention, urban information engineering and urban relevance engineering.
UP2507	Landscape Case Study	2	2	1	The main purpose of this course is to introduce students to more contemporary ideas about landscape. It also looks to introduce students to the theory of landscape not only as replica, but also of having deeper meanings and being a

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					vehicle for theoretical ideas and explorations in the visual arts. The unit looks to build students knowledge about contemporary landscape architecture.
UP2508	Advanced Landscape Engineering	2	2	2	The goal of this course is to introduce students to practical aspects of site engineering and provide them with the skills and vocabulary to interface effectively with other design professions. The course is dealing with earthwork estimating; storm water management, site surveys, site layout, cut and fill calculations, parking and road layout, horizontal and vertical road alignment. Lectures and studio projects focusing on the professional skills and knowledge required to competently and creatively develop grading plans for project-scale site design. Pre-requisites: Site Engineering (UP2003) and permission of UPLA Dept.
UP2509	3D Computer Grahpics	2	2	1	Three dimensional computer graphics is gradually becoming an important or even fundamental tool and skill in many fields of the design profession in recent years. This course aims to train students to become skillful with basic operations of 3D computer graphic software and their introductory applications in the related professional fields.
UP2510	Prototypes of Urban Space and buildings	2	2	1	This course is one of urban design discipline. It introduces

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					two main kind of physical urban elements: open spaces and buildings. Various prototypes of open space and building are introduced and compared. By lectures and workshops, students should be acquainted with these types as knowledge base of urban design study.
UP2511	Computer-aided Drafting	2	1	2	Nowadays professional design drawings created through the aid of computer is the dispensable communication media in those fields involving physical design, such as architectural, industrial, interior, landscape, and urban design. This course aims to train students to become skillful with basic operations and practical applications of computer-aided drafting software.
UP3501	Computer-Aided Planning and Design	2	3	1	The goal of this course is to let students clearly understand the principles and operations of the three dimensional computer-aided design (3D CAD) and geographic information systems (GIS), and their real-world applications.
UP3502	Advanced Computer Graphics	2	3	2	This course is the continuation of the Basic Computer Graphics taught in the previous semester. It extends the concepts of computer graphics from two dimensional (2D) into three dimensional (3D). Its goal is to let students be able

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					to utilize 3D computer graphics as an effective tool to aid their environmental planning and design works.
UP3503	Landscape and Recreation Theory	2	3	2	The course is designed for graduate students of the Landscape & Recreation Division as compulsory course. Focuses are placed on the landscape & recreation issues relevant to ecology, sustainability, social and recreation.
UP3505	Construction Cost Estimation and Management	2	3	1	This course focus on the introduction of construction appraise system and construction plan. Including format and composition of appraise forms, calculation and analysis of amount of labor and materials, contract, construction plan, construction quality control, schedule control and field layout.
UP3506	Garden and Interior Landscape Design	2	3	2	This course is covering the principles and practices of using plants indoors and outdoors. Emphasis will be placed on both the interaction between environmental factors and installation, maintenance and management of plants in large interior settings such as airport terminals, hotel lobbies, office complexes and shopping malls, and small scale of outside gardens such as courtyards, neighborhood garden and private house gardens. Installation and maintenance contracts, as well as cultural practices essential to plant

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					survival and utilization will be treated in detail. The course prepares students to design and arrange flowers, foliage, and related plant materials for interior locations both residential and commercial, and interior landscape design will be included.
UP3510	Methods of Planning Analysis	2	3	2	This course aims at teaching students about some predictive models which are quantitative and qualitative analysis models about neighborhoods, cities, and regions. They include: sampling, comparative analysis techniques, economic base analysis, population projections and decision-making techniques. To let the student understand the city and region development theories and analytical approaches. Further more, can use the secondary data to predict the future development.
UP3514	Case Study of Urban Design	2	3	1	Practicing urban design process and case study explores the designer's thinking and techniques. The main objectives of the course include Introductions of: 1. design concepts 2.Process and Strategies 3.Analyses and assessments , cultivate the learning capacity of analysis and judgment related to urban design °
UP3515	Recreation Economics	2	3	2	This course examines planning for transportation systems

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					and policy, with particular regard to urban transportation. This course will consider both theory and practice. The historical evolution and development of key transportation institutions, policies, and methods are analyzed, using examples of Taiwan. This course is intended to help prepare students for . The many roles of transportation planning – technical, mediating, advocacy, and political – are examined. Passenger and urban transportation planning and policy are emphasized, including land use and transportation interaction and emerging information technologies for transportation planning, pedestrian planning and design, and bicycles paths in connection with urban green network. Many sessions and readings are devoted to understanding current transportation planning issues and policy debates.
UP4503	Urban Finance	2	4	1	This course introduce the basic concept of real estate financial analysis. Case studies are applied to discuss the contents of land development and real estate investments. The focus of this course is on the foundations of decision making on land appraisals, investment, and mortgage.
UP4504	Urban Renewal	2	4	2	Introduce the urban renewal project and theory to built



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					concept of urban generation. Discuss several point such as plan, renewal, right change etc. So we will know the urban development in Taiwan.
UP4506	Topics on Land Development	2	4	2	The goals of this class, Land Development, are as follows. 1. Introducing the current laws, operating regulations and procedures of land development, as well as some basic concepts, the manners of development, development permission, and modification of land usage, etc. 2. By lecturing some practical cases of land development, and giving the task of simulated operation in case study, you'll learn the techniques and methods to work out solutions in practice.
UP4508	Topics on Urban and Rural Landscape Development	2	4	2	1. to cultivate the spatial sensibility and the appreciation on the associated scale and aesthetics, and to investigate the genius loci (user behavior) 2. to realize the working mechanism and the pattern of "Town Renaissance" 3. to train the ability of proposing the project papers 4. the fusion of urban design concepts into the urban planning infrastructure 5. to educate the expertise of finding urban spatial languages
UP4509	Statistics	2	3	1	Statistical Concepts; Collection and Properties of Data; Statistical Graphs and Tables; Statistics; Concepts of

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					Probability.
UP4517	Transportation Planning	2	4	1	
UP4518	Digital Urban Design and Simulation	2	4	1	
UP4519	Special Topics in Landscape Architecture	2	4	1	The course emphasizing the design process, theory, principles, and design vocabulary associated with landscape architecture projects. The goal of the course is to learn to read in greater depth and to see in greater detail-to recognize the visual and verbal languages that people use, how they use them, and to what end. This course will explore the 'know why' of landscape architecture since1950, juxtaposing both the built works and texts that address methodology or the discipline's theoretical contexts. Topical seminar with a different subject and method each time maybe offered. Work in the class introduces the design process, design principles, planting design, and graphics.
UP4520	Urban ecology and greening	2	4	2	The objectives of this course are described below: 1.To introduce the special characteristics of urban environment including the urban green structure, water cycle, carbon cycle and bio-climate, etc. 2.To analyze how human activities and urban development influence and change urban ecological environment. 3.To introduce how to create well

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					functioning urban ecological system for eco-city and low carbon emission city through energy saving, water reuse, biodiversity habitat creation, green network construction and urban greening practices (including bio-energy uses). The course is aim to improve students' knowledge and skills on urban planning and design through introducing theory and case studies and conducting field trips.
UP4521	Ecological Engineering	2	4	2	The course introduces principles of ecological engineering. The topics include definitions and development of ecological engineering, basic theories and practice of technology. Aim to establish the belief of human nature harmony in students.
	Total :	62			