Study Program of **Architecture**

Faculty of Engineering, Universitas Muhammadiyah Surakarta

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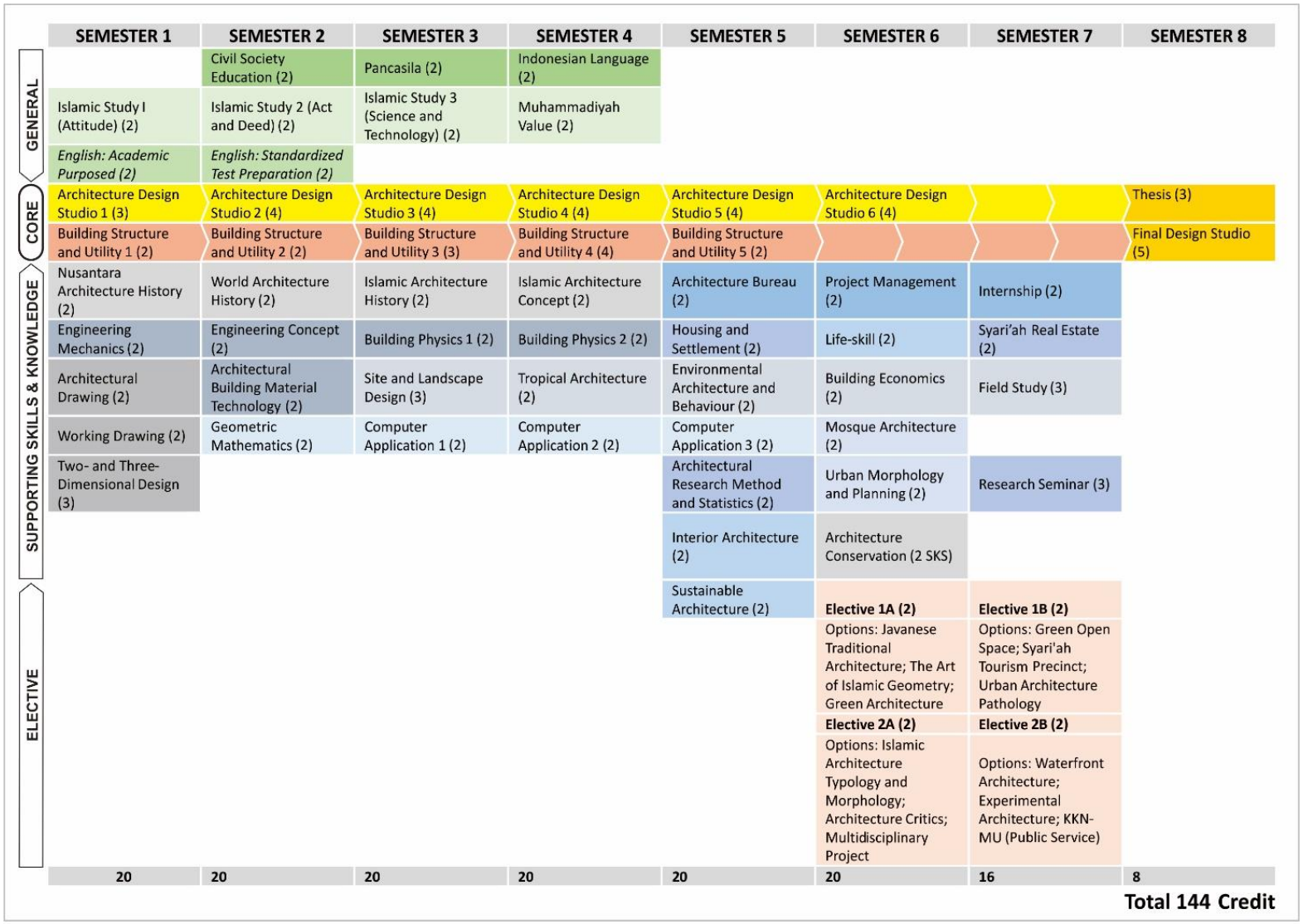
Curriculum Structure



	SEMESTER 1	SEMESTER 2	SEMESTER 3	SEMESTER 4	SEMESTER 5	SEMESTER 6	SEMESTER 7	SEMESTER 8
GENERAL		Civil Society Education (2)	Pancasila (2)	Indonesian Language (2)				
GENERAL	Islamic Study I (Attitude) (2)	Islamic Study 2 (Act and Deed) (2)	Islamic Study 3 (Science and Technology) (2)	Muhammadiyah Value (2)				
GENERAL	*English: Academic Purposed (2)*	*English: Standardized Test Preparation (2)*						
CORE	Architecture Design Studio 1 (3)	Architecture Design Studio 2 (4)	Architecture Design Studio 3 (4)	Architecture Design Studio 4 (4)	Architecture Design Studio 5 (4)	Architecture Design Studio 6 (4)		Thesis (3)
CORE	Building Structure and Utility 1 (2)	Building Structure and Utility 2 (2)	Building Structure and Utility 3 (3)	Building Structure and Utility 4 (4)	Building Structure and Utility 5 (2)			Final Design Studio (5)
SUPPORTING SKILLS & KNOWLEDGE	Nusantara Architecture History (2)	World Architecture History (2)	Islamic Architecture History (2)	Islamic Architecture Concept (2)	Architecture Bureau (2)	Project Management (2)	Internship (2)	
SUPPORTING SKILLS & KNOWLEDGE	Engineering Mechanics (2)	Engineering Concept (2)	Building Physics 1 (2)	Building Physics 2 (2)	Housing and Settlement (2)	Life-skill (2)	Syari'ah Real Estate (2)	
SUPPORTING SKILLS & KNOWLEDGE	Architectural Drawing (2)	Architectural Building Material Technology (2)	Site and Landscape Design (3)	Tropical Architecture (2)	Environmental Architecture and Behaviour (2)	Building Economics (2)	Field Study (3)	
SUPPORTING SKILLS & KNOWLEDGE	Working Drawing (2)	Geometric Mathematics (2)	Computer Application 1 (2)	Computer Application 2 (2)	Computer Application 3 (2)	Mosque Architecture (2)		
SUPPORTING SKILLS & KNOWLEDGE	Two- and Three-Dimensional Design (3)				Architectural Research Method and Statistics (2)	Urban Morphology and Planning (2)	Research Seminar (3)	
SUPPORTING SKILLS & KNOWLEDGE					Interior Architecture (2)	Architecture Conservation (2 SKS)		
SUPPORTING SKILLS & KNOWLEDGE					Sustainable Architecture (2)			
ELECTIVE						**Elective 1A (2)**	**Elective 1B (2)**	
ELECTIVE						Options: Javanese Traditional Architecture; The Art of Islamic Geometry; Green Architecture	Options: Green Open Space; Syari'ah Tourism Precinct; Urban Architecture Pathology	
ELECTIVE						**Elective 2A (2)**	**Elective 2B (2)**	
ELECTIVE						Options: Islamic Architecture Typology and Morphology; Architecture Critics; Multidisciplinary Project	Options: Waterfront Architecture; Experimental Architecture; KKN-MU (Public Service)	
	20	20	20	20	20	20	16	8

Total 144 Credit

Short Description of All Courses

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
Semester 1			
TKA10133	Architectural Design Studio 1 (Studio Perancangan Arsitektur 1)	3	This Architectural Design Studio (ADS) 1 aims to design a unique space that has simple functions such as a shop, cafeteria, guardhouse, or other simple functions based on the idea of 2-dimensional art into 3-dimensional shapes (from art to space). Each space must be designed with function and aesthetics in mind. The design location is in Surakarta and its surroundings. The form of the building must be able to accommodate functions and reflect good artistic creativity to attract the attention of buyers and the surrounding community.
TKA10232	Building Structure and Utilities 1 (Struktur dan Utilitas 1)	2	The process of building design is carried out by considering the various components that play a role in the object concerned. One of the elements that must be considered is the structural, construction, and utility system components that must be viewed from the beginning of the design process. Structure and utility 1 is the most basic course in the structure group and is a supporter of the Architectural Design Studio course. In this course, the substance contained in the theory of structural systems, construction, and utility of one-story buildings associated with the choice of materials (brick, wood, concrete, and steel).
TKA10332	History of Nusantara Architecture (Sejarah Perkembangan Arsitektur Nusantara)	2	The Archipelago Architecture History course studies (1) the history of architecture in Indonesia in the pre-Dutch colonial era, including traditional architecture, the influence of Buddhism, Hinduism, and Islam on architectural formations. (2) the history of architecture in Indonesia during the colonial period which includes the influence of Dutch colonialism and Chinese expansion on architectural formations. (3) the history of architecture in Indonesia after the independence period, which includes the early days of independence, the New Order period, and the Reformation period. 1. This material illustrates that the formation of architecture in Indonesia did not happen by itself but was the result of events that occurred in Indonesia from time to time.
TKA10433	Two-and-Three-Dimensional Design (Dwi Matra dan Tri Matra)	3	Architecture is a science that combines engineering and art. It is the art element that determines the beauty of unique architectural work and is different from the others. Most of the architecture students come from public schools, so that the artistic background is usually not owned by these students. This course introduces the important role of art, especially in architecture, especially 2 dimensions, which are the basis for aesthetic design in the Architectural Design Studio course 1. Students learn the basics of 2-dimensional designing, especially visual language, which is the basis for the creation of architectural design works. Students are expected to be able to design 2-dimensional form compositions properly through structured exercises.
TKA10532	Architectural Drawings (Gambar Arsitektur)	2	Architectural designs made by architects must be well informed and communicated to clients, assignors, policymakers, even to the general public. Communicating the design can be reached through visuals, namely pictures or models (mock-ups), and verbally through presentations. Various image visualization techniques and mockups have been developed with various media, and various presentation techniques to convince listeners have also been developed. By studying this subject, it is hoped that students can make architectural drawings and be able to communicate and publish both visually and verbally.

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
TKA10632	Engineering Drawings (Gambar Teknik)	2	The Engineering Drawing Course is a Basic Course taught in the first semester (1), as a basis (basic) for courses in the following semester, especially the Architectural Design Studio course, which contains image notations used to draw so that it is easy to understand in the context of architecture.
UMS10112	Religion 1 (Aqidah & Akhlak) (Agama Islam 1)	2	Islamic Studies 1 (believe and morals) is a compulsory university course that teaches the basics of embracing Islam with a priority on *hablum minal allah*. The material taught is a combination of theory and practice with centralized learning or camp (*baitul arkom*). Students within 3 days are in the dormitory with lessons starting at 03.00 until evening or 22.00 hours. Deepening of faith and morality is the top priority in this course, such as Shahada, Prayer, Fasting, Zakat, and Hajj. The essence and application of the Five Pillars of Islam in a good relationship with Allah.
TKA10822	Engineering Mechanics (Mekanika Teknik)	2	Technical mechanics contains how to analyze a structure to find out the number of internal forces that occur in the structure, including shear forces, normal forces, and bending moments due to external loads or forces (external force). Engineering mechanics course materials include simple beam analysis, gerber beams, cantilever structures, and truss structures that are commonly applied to building structures.
UMS10312	English for Academic Purposes	2	English for academic purposes is a compulsory university course given to students in semester 1. This course provides a basis for students to learn English basics, such as structure and grammar in English so that students can practice in writing and conversation.
	Total Credit Semester 1	**20**	
Semester 2			
TKA20134	Architectural Design Studio 2 (Studio Perancangan Arsitektur 2)	4	In the Architectural Design Studio (ADS) 2 course, students are required to complete a challenge with the competence to design professional residential buildings with the theme Creative Functional Space: Form Follows Function, on limited land. Form Follows Function itself is a view that emerged in the late 19th to early 20th centuries AD, which argues that in the form of a building, it should refer to the function and purpose of its construction. The object for ADS 2 is a professional residence with 5 residents (parents, 2 children and 1 household assistant). +300 m2 land area with a unique shape. This building is also designed to accommodate specific professional activities where the user is allowed to work at home. This building must have functional spaces that are private, semi-private, and public, as well as specific spaces according to each profession's needs.
TKA20232	Building Structure and Utilities 2 (Struktur dan Utilitas 2)	2	The process of designing a building object is carried out by considering the various components that play a role in the object concerned. One of the features that must be considered is the structural and utility system components that must be considered from the beginning of the design process. Structure and Utility 2 is a continuation course of Structure and Utility 1 and is a supporter of the Architectural Design Studio course. It contains the theory of structural systems and building utilities 2 - 4 floors with an emphasis on the use of concrete materials.
TKA20332	World Architecture History (Sejarah Perkembangan Arsitektur Dunia)	2	This course studies the knowledge of fundamental aspects in the development of world architecture in relation to the history of world civilization, from classical to contemporary. This course studies the chronology of the development of civilization and culture and aspects related to architecture and design, such as structure and construction, building styles, materials, and so on. At the end of the lecture, students will create architectonic documentation of world architectural elements through several scenarios, for example, based on time or ideology.

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
TKA20432	Architectural Building Material Technology (Teknologi Bahan Bangunan)	2	The planning and design process is holistic, considering various aspects, namely physical and non-physical elements. Among the many elements that are taken into consideration, one of which is the material aspect. Material is an important aspect because its role can support architectural appearance as well as support structural functions. In a series of curriculum majors in architecture, Technology Substances and Building Materials are divided into 2 main groups: materials that support structural functions and materials that support architectural functions.
TKA20522	Mathematical Geometry (Matematika Geometri)	2	The discussion of geometric mathematics includes the introduction of lines, shapes, and plane surfaces in architecture; introduction of a variety of different perspectives; introduction of architectural figures in the Golden Ratio principle and its application in architectural works; introduction to geometric operations related to architectural shapes and planes (projection, rotation, reflection); special introduction to curved shapes to create interesting architectural constructions.
ENG20421	Concept Engineering (Konsep Rekayasa)	2	The Engineering Concept course explains (1) the basic basics of engineering including history, definition, and work team, (2) the difference between engineering as a profession and a scientist, (3) developing more creative thinking, and (4) good communication to explain engineering works in verbal language, writing and pictures, and (5) how to become a problem solver or develop design ideas/ideas in solving problems in society
UMS20112	Religion 2 (Worship & Muamalah) (Agama Islam 2)	2	Islamic Studies 2 (Worship & muamalah) is a compulsory university course that teaches about *hablum minan nas* or good relations with other humans. The material taught is a combination of theory and practice with centralized learning or camp (*baitul arkom*). Students within 3 days are in the dormitory with lessons starting at 03.00 until evening or 22.00 hours. Deepening the verses that lead to good deed such as respect for parents, neighbors, buying and selling and good deeds to others are the main priority in this course so that students can understand the dimensions of religion, not only good relations to God but also good relationships among humans in the world.
UMS20812	Citizenship Education (Kewarganegaraan)	2	Citizenship education is a compulsory subject for students as citizens or residents in Indonesia. This course teaches students about the responsibilities of being Indonesian citizens who are obliged to defend the Republic of Indonesia. The material taught is more about attitudes and behavior as Indonesian citizens.
UMS20312	Standardized Test Preparation	2	This subject is a compulsory university course taught in semester 2. The material taught is a priority on standardized English language skills that are tested for the purposes of graduation, work or further study. The material taught includes: (1). Listening, (2) Structure and grammar (3) Vocabulary (4) reading and (5) Writting. With this course, students are expected to be accustomed to using English for tests and daily life.
	Total Credit Semester 2	19	
Semester 3			
TKA30134	Architectural Design Studio 3 (Studio Perancangan Arsitektur 3)	4	The ADS 3 course has the competence so that students can design multi-mass buildings with the main building specifications having a height of 4 floors. By determining 3 (three) main aspects as emphasis. First, the aspect of creativity, which emphasizes the mass arrangement design of the building on the site. Second, the part of applying Islamic architecture on the zoning aspects of user activities and behavior in the architectural object area. Third, the landscape aspect is a connecting element between functional and aesthetic buildings. The fulfillment of these three main aspects is supported by behavioral factors that emphasize circulation between buildings.

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
TKA30233	Building Structure and Utilities 3 (Struktur dan Utilitas 3)	3	The design of low vertical buildings (low rise building) must pay attention to construction that provides a sense of security against strength in compressive, lateral, and twisting loads. The construction design must include utility facilities to achieve the elements of ease, safety and operational safety of the building. The accuracy of technical and functional standards greatly determines the smoothness and success of a set of utility installations and structural systems in low rise buildings. Utility facilities must be coordinated with the structural and architectural design to produce an optimal design. The choice of construction material and utility will affect the load calculation that must be borne, both compressive (gravity), lateral (live & side) loads, and torsional loads. This course will assist students in applying the structural and utility systems of low rise buildings in the ADS 3 course.
TKA30332	Islamic Architecture History (Sejarah Arsitektur Islam)	2	Islamic civilization began when the Prophet Muhammad was chosen to be the last prophet. Architectural heritage from then until now comes from Saudi Arabia and other countries with Muslim populations. This course teaches about the types of Islamic architectural heritage in the form of (1) the form of the settlement, (2) the building (spatial layout and architectural style), (3) gardens, and decoration, from year to year, and country of origin.
TKA30432	Building Physics 1 (Fisika Bangunan 1)	2	This course is presented to increase students' knowledge and ability to implement building physics theory into architectural design, especially the interior design of spaces and building envelopes, which emphasizes the comfort of space from the aspects of natural lighting, natural ventilation, and environmental acoustics (controlling outside noise, so that it does not affect to inner space). This course material is followed by a practicum at the Building Physics Laboratory, in order to provide experience and understanding to students regarding the theory that has been given. Through the practicum, it is hoped that students can develop the knowledge they have through research in the field of building physics and design.
TKA30533	Site and Landscape Engineering (Rekayasa Tapak dan Lansekap)	3	The site and Landscape Engineering is a course on how to process (engineer) and design sites and landscapes based on functional-ecological and aesthetic principles. Sites and landscapes accommodate a variety of human activities with the support of existing natural conditions. Activities in the site and landscape can take place comfortably. The site and landscape's appearance has aesthetic value if the site and landscape are processed and designed by considering functional, ecological, and aesthetic aspects, and problems with sites and landscapes and conceptualization and design.
TKA30632	Computer Applications I (Aplikasi Komputer 1)	2	Along with the development of technology and information in the third-millennium era, the architectural professional world has demanded architectural design documents capable of using digital systems (computers). Making architectural design documents using a manual system is increasingly being abandoned because it has many weaknesses, namely lack of accuracy, slow revision, inhibition of design creativity, and difficulties in presentation and coordination with teams of other disciplines. This course will encourage students to be able to make computers as partners (co-workers) in completing various work of making 2D architectural design documents in the future, both in the form of assignments for courses in the next semester (Architectural Design Studio, Structure, and Construction, Final Projects, etc.), as well as for professional work when students have graduated (planners, supervisors, contractors, developers, etc.).

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(2)	(3)	(4)	(5)
UMS30112	Islam, Science & Technology (Agama Islam 3)	2	Islam, Science, and Technology are compulsory courses followed by all students at the Muhammadiyah University of Surakarta. This course provides students with insight into integrating Islamic values towards science and technology according to their respective fields of the study program. This integration architecture is shown by the implementation of Islamic values in macro-mezzo and micro level planning.
UMS10212	Pancasila	2	Pancasila is a compulsory subject for universities in Indonesia. The material taught in this course is (1) The history of Pancasila as a guide for the Indonesian citizen and (2) the application of the 5 precepts in everyday life.
	Total Credit Semester 3	20	
Semester 4			
TKA40134	Architectural Design Studio 4 (Studio Perancangan Arsitektur 4)	4	The Architectural Design Studio (STUPA) course is a course that aims to train and develop students' abilities in designing and delivering their designs. The STUPA course is designed so that students can design an architectural object determined by a team of supporting lecturers and maintain the design results in front of supervisors and examiners. For Architectural Design Studio (STUPA) 4, students are required to master the competence of designing a single mass building with a height of 8-15 floors to accommodate a single complex function.
TKA40234	Building Structure and Utilities 4 (Struktur dan Utilitas 4)	4	Limited land demands vertical development of infrastructure; therefore, a structural system is needed to support this. Reinforced concrete material is one solution besides steel and others. The selection of reinforced concrete material is a compositional material that can be calculated based on the load requirements that must be borne, compressive, lateral, and torsional loads. Although bone concrete construction takes longer than steel construction under construction, it is still the choice for its stiffness and strength, especially for high-rise buildings.
TKA40332	Islamic Architecture Concept (Konsepsi Arsitektur Islam)	2	The development of knowledge in Islamic history is following Allah's commands in the Qur'an to observe nature and use reason. In the 6th to 14th centuries, Islamic civilization produced many scientific works in science and technology, such as Ibn Sina, Al-Kindi, and Umar Khayyam. It is hoped that UMS graduates will continue the tradition of their predecessor and mastering science and technology, also learning religious knowledge and noble morals. This course provides knowledge of the history of Islamic thought and civilization in the architecture of Islamic concepts that can be applied in the design
TKA40432	Building Physics II (Fisika Bangunan 2)	2	This course is presented to increase students' knowledge and ability to implement building physics theory into architectural design, especially the interior design of space and building envelopes (roof and walls), emphasizing the comfort of inner space, through calculations and applicable standard references. This course material is followed by a practicum at the Building Physics Laboratory to provide experience and understanding to students regarding the theory that has been given. Through the practicum, it is hoped that students can develop the knowledge they have through research in the field of building physics and design.
TKA40532	Tropical Architecture (Arsitektur Tropis)	2	The tropical architecture course teaches students about (1) the characteristics of Indonesia's tropical climate as the basis for designing tropical buildings, (2) the nature of tropical architecture, which is not a style or style but architectural works or building forms that can reflect the characteristics of tropical climates to in the building, and (3) designing tropical buildings in Indonesia. With the hope that students can develop architectural works on the basis of climate characters in Indonesia.

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
TKA40632	Computer Applications II (Aplikasi Komputer 2)	2	Computers prove to be excellent tools in many architectural jobs. The process of making design drawings and work can quickly be done using a computer with a high degree of accuracy and speed. With a CAD program, it is hoped that the technical skills will improve as well. Currently, the demands of using computers as a tool to design buildings are getting higher. This course focuses on using computers to draw architectural works in 3 dimensions as a continuation of the Computer Application 1 course in the previous semester, which studied drawing work drawings or 2-dimensional objects.
UMS40112	Muhammadiyah Value (Kemuhammadiyahan)	2	As a Study Program under the Muhammadiyah Foundation, Kemuhammadiyahan is a compulsory university course. The material taught is (1) History of Muhammadiyah (2) Muhammadiyah objectives (4) Usama Muhammadiyah field (4) Autonomous Organization, and (5) provisions as members of Muhammadiyah.
UMS30212	Indonesia Language (Bahasa Indonesia)	2	Indonesian is an obligatory university course for students. This course is more specific in studying Indonesian to do writing, especially for subjects that require writing reports. The materials taught are (1) rules in the use of Indonesian (the structure of the Indonesian language, (2) enriching the use of Indonesian, and (3) doing good writing using Indonesian.
	Total Credit Semester 4	20	
Semester 5			
TKA50134	Architectural Design Studio 5 (Studio Perancangan Arsitektur 5)	4	The Architectural Design Studio (STUPA) course is intended to be a place to train and develop the ability to design and convince service users. The form of this course is designed so that students are able to design and defend their designs in front of their supervisors and examiners. For Architectural Design Studio (STUPA) 5, students are required to complete assignment questions with the competence to be able to design buildings with a Horizontal Span Building Structure.
TKA50232	Building Structure and Utilities 5 (Struktur dan Utilitas 5)	2	This course is the last of the 4 structure and utility courses in the previous semester. In this course, theory and application are introduced to plan and design a long-span building structural system and utility system for a particular building function with a specific system according to the material being studied. The design method used is an experiment that is realized in a model/mockup and is carried out on the model/mockup test. In the end, it is hoped that the general concept of long-span building design, structural and utilization concepts, long-span building structural systems will be understood and explore a system for further exploration.
TKA50332	Architecture Bureau (Biro Arsitektur)	2	This course provides experience for students in groups to establish an architectural consulting firm with all its administrative regulations and activities in the world of architectural work, such as (1) making tender documents, (2) making intermediate reports, and (3) making final reports.
TKA50432	Settlement Design Principles (Pokok-pokok Perancangan Permukiman)	2	This course is a significant subject that supports planning and designing urban areas (urban planning - urban design) and other functional areas (housing and tourism). This competency is not a core competency but is an added value. Through this enrichment, the architectural graduates who produce are expected to develop their profession as supporting (supporting) regional and urban planning work, or even being able to achieve urban design projects that are currently quite large in proportion and are priority development activities.

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
TKA50532	Environmental and Behaviour Architecture (Arsitektur Lingkungan dan Perilaku)	2	This course is presented so that students understand the importance of human influence (as users) in shaping architecture (the built environment), and vice versa, how architecture can become a science of social engineering, as a form of Study Environment and Human Behavior. There are 3 main subjects, namely 1) environmental psychology, which is an approach and interrelation that influences user behavior and the environment, 2) evaluation of environmental design through user behavior approaches, evaluation methods, and processes on functional and technical aspects, until design recommendations are achieved so that building design and the environment can be better, 3) Evaluation of environmental design through mental maps, methods and evaluation processes of aesthetic aspects
TKA50632	Computer Applications 3 (Aplikasi Komputer 3)	2	This course is intended as a compulsory subject to provide technical provisions for students related to writing research reports, theses (DP3A-Basics of Architectural Design Planning Program) or research reports, and presentation techniques. Computer Application 3 emphasizes the student's ability to optimize Microsoft Word, Microsoft Visio, and Mind mapping programs for academic (report preparation/course assignments) and non-academic (non-academic presentations). Student competence in preparing reports and presentations will increase self-confidence.
TKA50732	Sustainable Architecture (Arsitektur Berkelanjutan)	2	With the sustainable architecture course, students are expected to understand the conditions of energy availability in nature, use of energy in architecture, and be able to apply energy-efficient architectural concepts to the planning and design of buildings and their environment. That way, students will get provisions to strive for energy savings in architectural and environmental design. The lecture material covers energy resources, the linkage of energy to architecture and the environment, energy use in building systems, and energy-saving technology in architecture and the environment.
TKA50832	Interior Architecture (Arsitektur Ruang Dalam)	2	Inner Space Architecture is part of architectural design. Internal space in a building accommodates human activities in the building. These activities can take place well with an aesthetic appearance of space if the inner space is planned and designed by considering interior design principles. Therefore, in this subject, it is necessary to master the physical conditions of the inner space, including the elements that form space, activities that take place in space, and the principles of internal design.
TKA50932	Methods & Statistics of Architectural Research (Metode dan Statistika Riset Arsitektur)	2	This course is not a direct supporter of design competence but is a significant supporter of research competence. The material given is limited to statistical methods, which are often used in architectural research. Statistical material is focused on understanding the technique and how to calculate it. Simultaneously, the use of computerized analysis tools is only limited to the introduction and technical reading of the results of the analysis it produces.
	Total Credit Semester 5	20	

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
Semester 6			
TKA60134	Architectural Design Studio 6 (Studio Perancangan Arsitektur 6)	4	The Architectural Design Studio (STUPA) 6 course is intended to be a place to train and develop the ability to design and convince service users through real work. As the last stupa, students are currently being trained to dive into the real world, and students have real clients in a tourist village. Students in groups do macro works (master plan papers), then proceed individually to do mezzo-micro-works (RTBL and building designs). Each student's final work can be in the form of a document that is ready to build or even has arrived at a real building even though it is simple. The building (interior/exterior) must combine aspects of safety, comfort, usability, and sustainability. On the other hand, the facility must also reflect the spirit of love for a tourist village and arouse local wisdom, as well as be oriented towards a bright future.
TKA60232	Mosque Architecture (Arsitektur Masjid)	2	Mosques are the greatest works of Islamic architecture. Planning and designing a mosque requires rules and principles based on Islamic law. This course is presented to broaden students' insights about the history of the development of mosques from the first mosque (Nabawi) to today's mosques in the world, understanding the principles based on the Qur'an and Hadith, which directly and indirectly form the basis for building mosques. , recognize and understand the various patterns, components, and styles of mosque architecture, then students are expected to apply them in mosque design. To strengthen students' ability to design mosques, students need to be provided with Islamic Architecture Conception courses.
TKA60332	Project Management (Manajemen Proyek)	2	Project Management course is a course that studies how to manage projects so that projects are considered successful in terms of on-time, on quality, and cost. The material learned starts from understanding project management and management, Development Implementation Elements, Tenders, Bestek, Work Plans, Field Plans, Network Planning, Building Budget Plan (RAB), Supervision, Project Maintenance, and Delay Claims. Students are given the task of finding project documents to get to know the project's actuality and reality. At the end of the lecture, students are asked to calculate the RAB for a simple building
TKA60432	Morphology and Planning of City (Morfologi dan Perencanaan Kota)	2	This course discusses architecture science at the urban level, which is greater than building design but smaller than urban planning, otherwise known as urban design or city design or city architecture. In addition, this course also examines how cities can be born, developed, died, or be sustainable, or known as city morphology. So, after completing lectures, students are expected to be able to understand how cities can be born, develop, die or be sustainable; they are also likely to be able to recognize urban design elements, such as the design of natural environmental elements, creation of artificial environmental elements and design of environmental elements, and social elements. At the experimental stage, students can get to know the basic principles of design and concepts, such as preparing the Urban Design Guide Line (UDGL), as part of the preparation of the Building and Environmental Planning (RTBL). In addition, through practice, students can also display layers of the history of the development of a city

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(2)	(3)	(4)	(5)
TKA60632	Building Economics (Ekonomi Bangunan)	2	Building Economics is a science that explains how the method of assessing a design (building/area) is also planned economically feasible or profitable to be realized. This course is essential for the field of architecture because it aims to understand the basic concepts of building economics/engineering and can use it to improve the efficiency and effectiveness of planning, implementing, and occupying activities.
TKA60732	Architectural Conservation (Konservasi Arsitektur)	2	This Architectural Conservation course is a compulsory subject taken in Semester VI. This course is to equip students to understand, understand, and apply conservation or preservation in buildings and areas. The application of conservation considers existing rules and regulations with the concept of maintaining, maintaining, and providing ideas for its development.
UMS60112	Life-Skill (Ketrampilan Berkehidupan)	2	This subject is a compulsory subject aimed at understanding and fostering responsible entrepreneurship as a provision for soft skills that will complement students' skills in community life. This course provides understanding and understanding of ethical professions in communication, the formation of an independent personality, and the introduction of self-potential by eagerly serving society's needs in a simple and structured architecture. In its development, this course collects the certificate of activities that have been participated and then validated by an academic supervisor in the STAR UMS system.
	Elective Courses 1	2	
TKA60842	Javanese Traditional Architecture (Arsitektur Tradisional Jawa)	2	This course teaches the concepts and characteristics of traditional buildings found in Java and the techniques for developing their designs, including West Java, Central Java, and East Java
TKA60942	Islamic Geometry Art (Seni Geometri Islam)	2	This course studies the knowledge of fine arts developed in the Islamic world, especially in architecture. The course starts from the understanding of Islamic geometric architecture, the position of art in Islam, the history of the development of fine art by Islamic artists in the past, the classification of fine arts in Islam, the formation and development of geometric patterns, Islamic geometry in ornamentation, Islamic geometry in the context of buildings, and Islamic geometry in a regional context. At the end of the lecture, Islamic geometric design experiments were carried out in various contexts as a training medium to see the potential and contribution of Islamic geometry in architectural design.
TKA61042	Green Architecture (Arsitektur Hijau)	2	By taking this course, students are equipped to design green buildings using the green ship rating tool from GBCI and several general criteria for green buildings, including natural lighting, environmentally friendly materials, renewable energy, and green infrastructure.
	Elective Courses 2	2	
TKA61142	Typology and Morphology of Islam Architecture (Tipologi dan Morfologi Arsitektur Islam)	2	This course is intended to provide knowledge and understanding to students regarding the Typology of Morphology in the scope of Islamic Architecture along with the aspects behind it and the process of its formation, including (1) principles; (2) approach; and (3) the Tipo-Morfo method. Students must master the material provided to apply it to architectural studies at micro and mezzo scales by analysis-synthesis.

Course Code	Courses	Credit	Course Description
(2)	(3)	(4)	(5)
TKA61242	Architectural Critics (Kritik Arsitektur)	2	Architectural Critics is a concentration of architectural that aims to explain and assess an architecture based on a particular point of view and value basis, which includes (1) architectural ideas; (2) architectural behavior; and (3) architectural objects. This course is held within the scope of Islamic Architecture. The fundamental values used in the critical process are a divine revelation and its derivatives in the form of theories, standards, principles, and so on. This course is intended to provide knowledge and understanding to students regarding (1) concepts, (2) approach, and (3) the Architectural Criticism method by utilizing various media and techniques to produce architectural critics.
ENG70122	Multidisciplinary Design Project (Tugas Perancangan Multidisipliner)	2	In engineering, a scientific discipline has almost the same basic knowledge as other engineering disciplines. These sciences are still related to one another. In this case, an engineer must cooperate with engineers from different engineering fields; they must communicate and coordinate with engineers from other science areas. In a team, the engineer acts as a central coordinator who unites all project activities.
	Total Credit Semester 6	20	
Semester 7			
TKA70133	Field Study (Kuliah Kerja Lapangan)	3	This course carries out the lecture in the field in accordance with a particular theme. The object will be determined from the existing theme, usually done for 5 days and arranged by the students themselves. The activity can include research and community services. The final result of this field study is a report that is disseminated in a seminar for the public.
TKA70232	Internship (Kerja Praktek)	2	This subject is practical knowledge and necessary professional skills through practical work in planning and design, implementation, and project management to compare and find common ground between theory (academics) and the field (professional fields). This course is taken individually or in groups to gain professional work experience in the field. Students are required to analyze cases found in the project to understand the problems and solutions both from a technical and non-technical perspective to propose improvements to the planning and design, implementation, and management systems.
TKA70333	Research Seminar (Seminar Penelitian)	3	This course is the final course to show the enrichment of core competencies of graduates (professional architect - design) in the form of additional competencies (plus points), namely research and entrepreneurship skills (Final Project prologue, thematic and supporting the Final Project MK is held for one full semester, with the independent study learning method under the guidance of a scheduled and structured supervisor. This course is pursued by students in an individual system, as the first step towards a final project. Students must present their research results in front of a team of defectors from other groups at the final stage of learning. This seminar is open to the public, and the supervisor only acts as a facilitator.
TKA70432	Syari'ah Real Estate (Real Estate Syariah)	2	This course is essential for students who want to develop their competence in the property business. The main content of the Sharia Real Estate (RES) course is the development of an entrepreneurial spirit through architectural design work (architecture entrepreneurship). This course studies and trains students to (1) make real estate designs with a sharia approach (according to the principles of Islamic law); (2) calculating real estate capacity, investment, selling price, and the KPR (Home Ownership Credit) system and making marketing brochures.

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(2)	(3)	(4)	(5)
	Elective Courses 1	3	
TKA70543	Green Open Space (Ruang Terbuka Hijau)		Green Open Space (RTH) is an elective course for students with a strong interest in urban design with a green architectural approach by optimizing vegetation as a design element. In addition to designing green open space, this qualification course will also teach green open space research techniques so that the proposed design solutions are more in line with the field's problems. In the long term, a design proposal based on the results of an in-depth study will have more value in the green open space development competition. Through this mechanism, after students graduate (become bachelors), they will have sufficient provisions in making proposals and designing green open spaces. The development of green open space is currently a priority, apart from improving the aesthetics and comfort of the urban environment, green open space is also effective in anticipating and overcoming the impact of global warming.
TKA70643	Syari'ah Tourism Area (Kawasan Wisata Syariah)		This lecture is essential for students who want to develop a sharia tourism area. This course's main content is the introduction of tourist areas that can be developed into halal tourism. This course studies and trains students to (1) inventory of potentials in Muslim residential neighborhoods, (2) create tourist areas with a sharia approach (according to the principles of Islamic law), and (3) create a marketing brochure.
TKA70743	Pathology of Urban Architecture (Patologi Arsitektur Kota)		Pathology is a known science in the medical field to map diseases in the body and then curing them. In this course, pathology is analogous to the science of architecture, which tries to diagnose diseases in the city area and then treats them.
	Elective Courses 2		
TKA70843	Water Front Architecture (Arsitektur Tepian Air)		The architectural profession is a profession of designing artificial environments, which often involve the land as a place for a function. Several other elements are often related to the building's function being designed, one of which is water. As a context, water is an important element that must be considered carefully because of its specific character. Architectural works on the water's edge are an important topic in architectural discussions. As an elective course, this course is expected to answer students interested in developing areas around lakes, oceans, or rivers. This is very important, especially when the issue of the sustainable environment becomes a big issue, concerning water as a special element
TKA70943	Experimental Architecture (Arsitektural Eksperimental)		The Experimental Architecture course teaches students the process and results of the design that are creative, innovative, and different from others. This is done by giving students experience to be involved directly in designing, which is a problem in society. This experience covers the exterior and interior micro fields. It starts from the design, DED, RKS (material specifications), RAB, and implementation (products). Through this course, students are expected to be able to design: (1) an exterior in the form of a facade and garden elements, (2) an interior in the form of layout and detailed furniture with a comprehensive approach and using computer media to prepare design documents (DED, RKS), RAB and finished products/prototypes).
UMS71013	Muhammadiyah Community Service (KKN-MU: Kuliah Kerja Nyata Muhammadiyah)		Real Work Lectures are designed in the KKN - PPM format (Real Work Lectures - Community Empowerment Learning). Some things that need to be noted in this KKN MK are: The KKN learning method is fieldwork by following certain predetermined stages so that the material is not compiled in the form of meeting sessions but in the form of activity stages that must be carried out during KKN. The written activity stages are the main activities. Detailed activities are

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(2)	(3)	(4)	(5)
			tentative, depending on the theme/topic proposed and the problems developed in the field. KKN is carried out by several elements, including lecturers, students, LPPM, partners, the general public, and following the KKN program developed by Muhammadiyah.
	Total Credit Semester 7	16	
Semester 8			
TKA80133	Architecture Design Thesis (Studi Konsep Perancangan Arsitektur - SKPA)	3	The architectural design concept studio course (SKPA) final product is a DP3A book that contains a basic report on practical architectural design approaches and concepts (design concepts). This report is the primary basis for students to develop architectural designs. This report contains an introduction, literature review, data (site and activity reviews) as well as analysis and design concepts
TKA80235	Final Project Studio (Studio Tugas Akhir)	6	The final project studio is the final stage of a series of architectural student final project activities. Students are allowed to participate in this stage after having passed the SKPA course at the DP3A Examination / Session. The activity at this stage is the independent architectural design work carried out in the Final Project Studio. The final product is an architectural design drawing (equipped with a mockup and a design report) which is based on the design concept of DP3A,
	Total Credit Semester 8	9	
	Total Credit	144	