

Thesis Supervisory Panels as the New Design Studio Paradigm in UTM Master of Architecture Programme

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Published: 31 August 2022

The UTM's M.Arch programme revitalized its Design Studio programme, also known as the Architectural Design Thesis (ADT), when it introduced the Thesis Supervisory Panel system in 2013. Developed as an expansion from the preceding 5-year B.Arch and 3+3 Integration programme, the ADT expanded the previous 2-stage final year Design Studio spanning over two semesters into four, introducing the TSP, implementing the vertical studio and allowing students to choose their own paths. The programme was developed from the Workbase system, a hands-on, master-led Design Studio approach influenced by Ecole des Beaux Arts and Bauhaus. The authors intend to tell the story of the programme and its changes throughout the years. This paper records the growth and development of the TSPs in the M.Arch programme, tracing its origin in the Workbase practiced since the 1980s with data collected from the Thesis Coordinator's files, departmental publications and documentations and have been organized in a simple narrative. By framing the narrative on the back story of the TSPs, the paper offer better understanding on the inner workings of the UTM M.Arch studio programme and encourages improving and strengthening the established system and opens up new studies that could enrich and diversify it further.

Keywords:

1. INTRODUCTION

The Design Studio in the architecture programme of Universiti Teknologi Malaysia could trace its routes back to the early days of Sekolah Teknik in Jalan Gurney, Kuala Lumpur in 1904. Sitting at the core of architecture education, the Design Studio is integral in the training of an architect. Each school is an architecture education provider, and they are responsible of formulating their own programme, curriculum and syllabus, creating their own mold to shape and form the next generation of architects. The UTM Architecture Programme (previously known as The Department of Architecture, and in this paper will refer to as The School) embraces this and have been responsible in designing the programmes to suit the needs of the industry as well as the country as a whole.

Looking back at the history of the UTM architecture programme during the days of the Technical College, the Design Studio began with the introduction of the architecture programme in 1962 (Kosman, 2011). It went through a review in 1969 which introduced a more structured system with allocation of credit hours and courseworks. Later the curriculum was further updated when the Technical College was upgraded into Institut Teknologi Kebangsaan in 1972, and for the first time the Bachelor of Architecture degree was offered (Jabatan Senibina, 1986). It was further upgraded with a the 3+3 year integration programme, which offered a three year diploma followed by another three year degree in 1975 (Kosman, 2011). Throughout the years, the studio remained integral to the training of the architecture student, led by tutors and lecturers with their own specific approach and design agendas. The 3+3 year integration ran for 27 years before being replaced by the 5 year degree programme in 2003, which saw significant restructuring to the studios and the content of the curriculum to better suite the contemporary needs. The single Bachelor of Architecture programme was supposed to be a temporary measure, a means to standardize the UTM architecture programme with the rest of Malaysia (Jabatan Senibina, 2005).

However the programme ran for 10 years before being replaced by the 3+2 year degree and

masters programme, awarding the Bachelor of Science in Architecture (B.Sc.Arch) and the Master of Architecture (M.Arch) and still currently running in UTM Johor Bahru campus. In all its iterations, the Design Studio plays a key role especially towards the end of the studies. Prospective graduates are expected to achieve specific criteria and skills in line with the stipulated Programme Educational Outcomes. The final year was marked by a major design studio event known as the Architectural Design Thesis (ADT), celebrating the students' skills and knowledge in architecture by tackling a major design project for a year.

Initially it was handled by supervision, where each student is assigned to a lecturer to supervise him in developing his project. This relationship is not unlike the research supervision commonly practiced in graduating projects in other programmes, and both student and supervisor will work hand-in-hand to produce a formidable outcome to be presented to a panel of assessors in a viva-like assessment at the end of the semester. Later, the one-on-one supervision was replaced by the panel system in the year 2000, where like-minded lecturers would band together to form a supervision group that would guide a number of final year architecture students to develop and complete their works. This panel system is known as the Thesis Panel, and would later evolve further into the Thesis Supervisory Panel in 2013.

However, despite the records and paperworks, the progress and development behind the Thesis Supervisory Panels were not well documented. A significant amount of the ideas, intent and decisions were left unsorted over the semesters and there were little attempt to assemble them together. This paper traces back the journey of these panels and its aspirations, from its inception to its current form.

2. METHODOLOGY

The intent of this paper is to build a narrative that explains the process and reasonings behind the running of the Thesis Supervisory Panels currently conducted in the M.Arch programme in UTM. The authors were involved in the Architectural Design Thesis programme since

2002 and took charge of the programme together as Thesis Coordinator beginning September 2010.

2.1. Scope of Study

The narration of this paper is based on the perspective of the authors as the Thesis Coordinators, managing the programme from the 5-year B.Arch and later through the transition into the 3+2 year M.Arch programme. It will follow the evolution of the programme, detailing the rationale behind some of the changes that leads to the current programme.

This paper also discusses the reasons and causes of certain key decisions were made that has affected the development of the TSPs. Ten years of growth and development of the TSPs in the M.Arch programme will also be recorded, tracing its origin in the Workbase system practiced since the 1970s, up until the end of the 2021/2022 academic session. Data is collected from the Thesis Coordinator's files, departmental publications, course documentations and portfolio meeting reports have been organized in a simple narrative to establish the process in chronological order.

3. DISCUSSION

The Design Studio is both an academic system of teaching and learning, as well as a physical space where the design teaching and learning takes place (Majlis Akreditasi dan Pengajian Senibina Malaysia, 2013). The Design Studio is critical to the training of an architect as it constitutes the main pillar where all other topics or subjects are propagate around to support it (Zairul, 2018) (Mat Yasir, 2021). As it sits at the core of the architectural programme, the Design Studio became the subject of all sorts of innovative evolutions, mainly to keep up with the current industry, technological achievements as well as societal needs. Its dependence on integrative syllabus is essential to assure optimal process of learning amongst architectural students (Ibrahim & Utaberta, 2012).

Being one of the earliest school of architecture in Malaysia, UTM aspired to provide a wholesome programme in order to produce graduates who're able to address all the needs of the industry. So writing a programme in an open ended way, allowing for flexibility in the Design Studio was crucial, at the same time minimizing the need for revisions and amendments to the curriculum. Therefore, a systematic structure was needed in order to provide the scaffold to both allow integration of peripheral courses that enriches the programme and flexibility of the Design Studio.

To address this, the UTM Architecture Programme has embraced Design Studio approaches with heavy influences from Bauhaus and Ecole des Beaux Arts (Kosman, 2011), where one of the characteristic features include utilizing critique as a method to develop students' design works (Alagbe et al., 2017). The Ateliers as it is known at the Ecole, centers around learning by doing that is appended on the input lectures inspired the Design Studio as a pedagogy. Bauhaus focuses learning by creating a functional, ideal community where students became apprentices to the master (Broadfoot & Bennett, 2003). Throughout the year when the school was led by Julius Posener in 1956, the first Head of Architecture Department of the Technical College, followed by Arthur Bumbury in 1964 and D. R. Pritchard in 1967 (Kosman, 2011), the master-led Design Studio gradually took form into what is known as the Workbase system.

3.1. Design Studio Workbase

The Workbase is a teacher-centric pedagogical approach for teaching and learning in the Design Studio, first introduced to UTM in 1982 (Syed Ariffin, 2008) where the teacher (also known as Workbase Tutor or Master) will be responsible of the entire teaching and learning throughout the semester. They are given ample flexibility in determining the heading, theme, content and style of the design tasks tackled in the studio, so long as it is within the acceptable parameters set by The School (Mat Yasir, 2021).

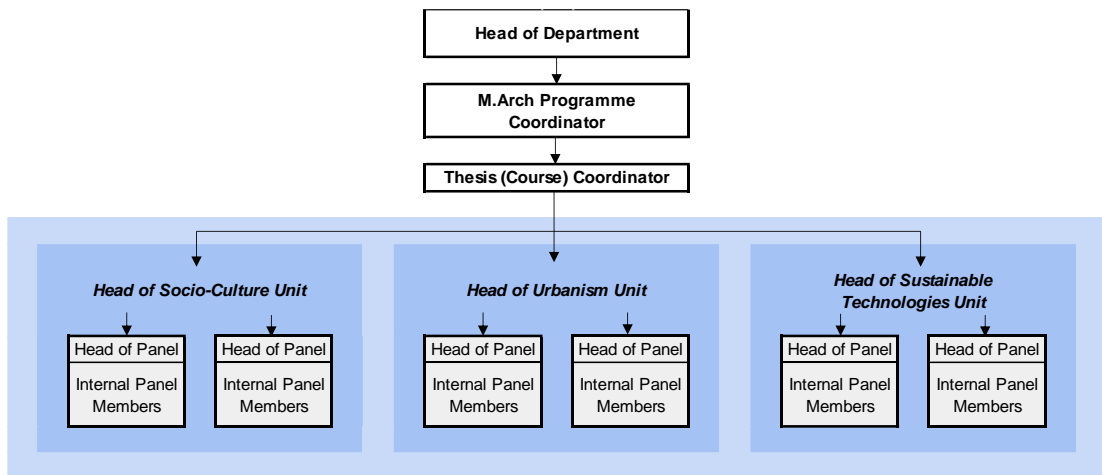


Figure 1 Studio Structure for Dip. Arch (Jabatan Senibina, 2002)

In a Workbase, the Tutor will be in charge of a small group of students, usually between six to a maximum of 15 students, the maximum size in accordance to the Board of Architects Malaysia's (LAM) requirements of staff:student ratio in the

studio (Majlis Akreditasi dan Pengajian Senibina Malaysia, 2013). It allows the Tutors to offer students opportunity to learn creatively, widens their horizons with diversity with a degree of freedom in doing so (Syed Ariffin, 2008).

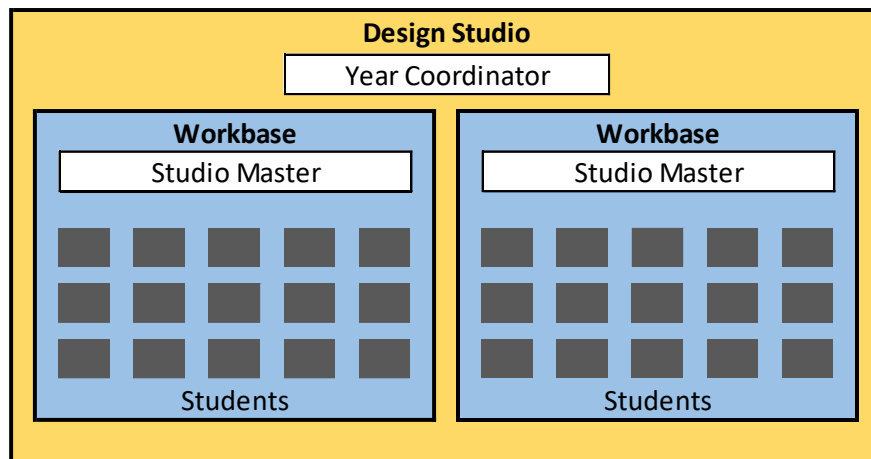


Figure 2 Workbases within the Undergraduate Design Studio (Program Senibina, 2022b)

Practically, the Workbase system splits the larger studio into smaller groups for ease of management (Figure 2). Tutors are occasionally shared between Workbases, but most often they are allowed to run their own programmes. Lecture inputs, critique sessions and tutorials are usually run together due to the common parameters. Critique sessions occur frequently, both formal and informally, typical of any Design Studios (Zairul, 2018). The Workbase system was later utilized in the 3+3 Integration programme in 1986 (Jabatan Senibina, 1986). Although it was formed to encourage healthy sense of individualism and devotion in

architecture, it seems to have the opposite effect when it comes to cooperation and peer-learning amongst students in the same cohort (Syed Ariffin, 2008). This was observed at 2nd year of the diploma where students were allowed to chose their own path based on a selection of individual Workbases. Each Workbase Tutor is responsible in shaping and moulding the design studio brief and parameters according to specific needs and preference. For example Theory and Philosophy (TAP) Workbase lets the students roleplay as one of the proponents of an established architectural theory or philosophy. Urban Context Workbase encourages design

within tight urban settings; Vernacular Workbase inculcates awareness of regional and heritage architecture; and Enviro Workbase focuses on practical environmental approaches in architectural design (Jabatan Senibina, 2001). This would mean two Workbases of the same level might be doing entirely different projects,

building type and scale from each other. Gradually over the years, this nudges the Workbases further and further apart, creating disparity between the Workbases, as illustrated in following Table 1.

Table 1 Projects by Workbases for 2nd year, Dip.Arch 2001/2002 semester 1 (Jabatan Senibina, 2001)

Workbase	Project
Urban Context (Wan Hashimah)	Project 1: 2 weeks 15% Project 2: 4 weeks 25% Project 3: 7 weeks 45% Pet Project: 2 weeks 15%
Enviro (Hong Lim Foo)	Project 1: 3 weeks 20% Project 2: 4 weeks 25% Project 3: 6 weeks 40% Pet Project: 2 weeks 15% Attendance: 10% of each project
Vernacular (Abdul Razak)	Project 1: 1 week 10% Project 2: 7 weeks 45% Project 3: 6 weeks 40%
Vernacular on CAD (Abdul Halim)	Project 1: 1 week 0% Project 2: 2 weeks 10% Project 3: 3 weeks 15% Project 4: 4 weeks 20% Project 5: 4 weeks 40%

Although this encourages students to develop their own unique style, it eventually became so divergent that students could hardly compare their works with their peers. It was a sudden jump from the Fundamental Unit (1st year), where everyone in the same cohort attempted similar projects of scale and size, only differing on client or site (Jabatan Senibina, 2001). To address this issue, the School introduced Unit-Workbase in 1989, a bigger group that comprises of Workbases with similar ideas or approaches (Syed Ariffin, 2008). It was an attempt to consolidate the Workbases from being too diverse from each other, which will form the basis of the Thesis Studio Units which will be discussed later in this paper.

Yet the individual nature of the Workbases apparent in the diploma programme was suddenly replaced with a tight, regimented programme when they continue for their B.Arch. At 4th year, the students went through thematic studio focusing on highrise building complex in

the first semester, followed by high-density housing in the second semester. This is subsequently followed by urbanism studio at fifth year, before going into their practical training with the industry, and later rejoin for their final year.

3.1.1. *Workbases in Architectural Design Thesis*

The final year of the B.Arch programme is known as the Architectural Design Thesis (ADT) (Jabatan Senibina, 2002). It is a comprehensive programme that encompasses a wide range of aspects pertaining to architectural design from architectural theory to practical application into design. Each aspect will be analyzed and put under scrutiny during the critique sessions (Lawson, 1997) and eventually the final assessment (evaluation) at the end of the semester. It is divided into two stages, one per semester: Stage 1 (Pre-Thesis) and Stage 2 (Thesis) spanning over the final year. Prior to

1998, students were paired up with Thesis Supervisors elected from one of the school members. The Supervisors were responsible in guiding the students throughout the final two semesters (Syed Ariffin, 2008).

The Workbase system reappeared in the back into the programme with the introduction of the Thesis Panels in 1998 (Syed Ariffin, 2008). It is a concept similar to the ones practiced in the Unit-Workbase of the lower years, but instead of one on one relationship with the Thesis Supervisors, students are grouped together under the same panel with Tutors who share similar interests. The panels provide unique opportunities for students to pursue their own interests in architecture through the medium of a building or complex of buildings (Jabatan Senibina, 2002). Each panel has its own specialisation, expertise and individual approach which will guide the students prepare and develop their briefs, design proposals, documentations, solutions and conclusions.

This forms the basis of the Thesis Supervisory Panel and the core approach of the entire Design Studio currently being practised in the M.Arch programme, which will be discussed further in section 3.3. When the 5-year B.Arch programme

was introduced to replace the 3+3 Integration in 2002, it assimilated both the Dip.Arch and B.Arch into a single degree programme. The duration of the studies was reduced to five years, where a significant restructuring of the course structures was implemented. Yet the matter of the Workbase focus remains. The 2nd and 3rd year of studies were too individualised in their own approaches and philosophies, again a creating similar situation where students became too specialised before they get to their upper years.

This calls for another review of the curriculum, conducted in 2007, to address the issue and potentially revamp how the Workbases were run. The School recognised the need for lower year students to have a common objectives that are shared amongst the Workbases, in order to have a more comparable outcomes and encourage peer-learning. The individualistic, highly unique approaches to studios should be left for the upper end of the studies in the Architectural Design Thesis. This realignment is further strengthen with the introduction of the 3+2 year programme (B.Sc.Architecture and Master of Architecture) in 2013, which saw the implementation of the revised Studio Rubric, later renamed as the Design Matrix.

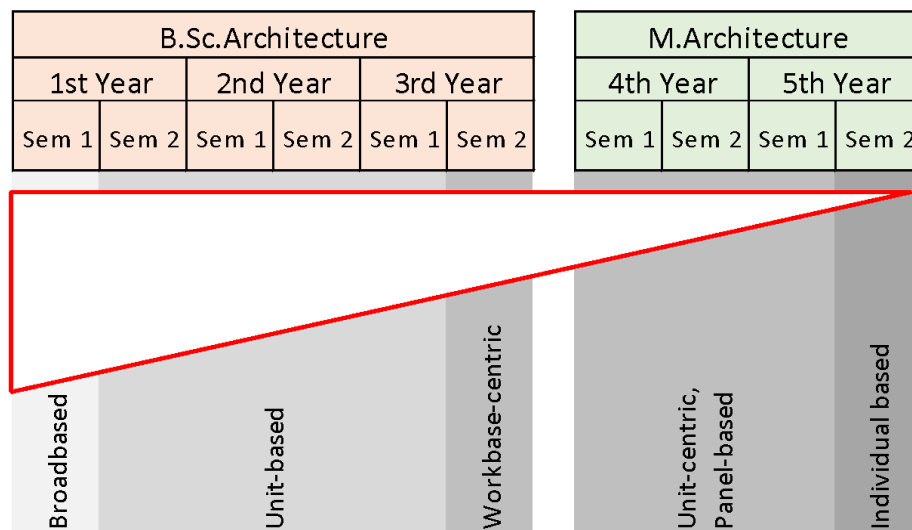


Figure 3 Overview of the Workbase Focus after the realignment process (Mat Yasir, 2021)

Figure 3 above shows how the focus of the studios gradually shifted from being broadbased in the 1st year to highly focused on individual

approach in 5th year in the 3+2 programme. This approach affirms the continued existence of the Thesis Panels in the new programme.

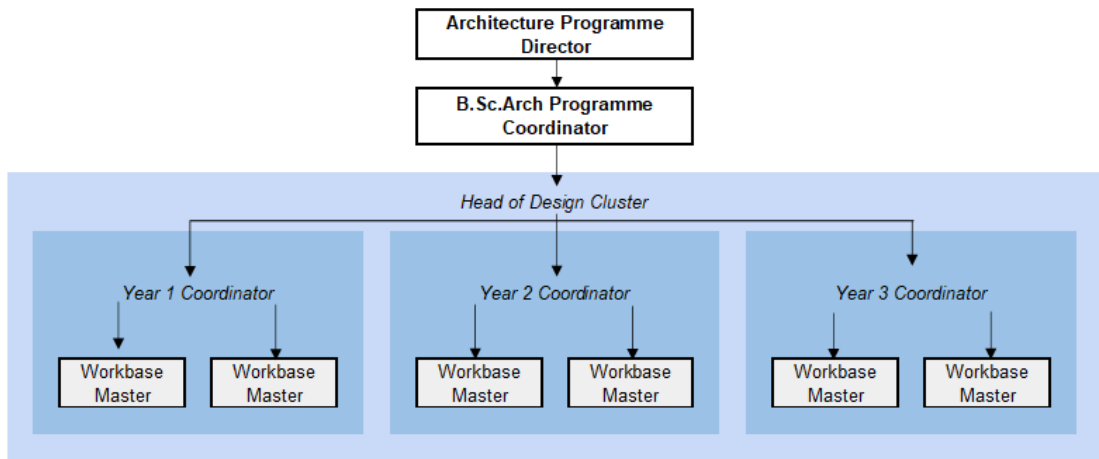


Figure 4 Studio Structure for B.Sc.Architecture (Mat Yasir, 2021)

3.2. Thesis Studio Units (TSU)

One of the most important question during the writing of the 3+2 programme was “What is the heading of the School?”. UTM used to be a very technical-centric programme, where a large emphasis was given on the buildability, practicality, construction details and drawing conventions (Jabatan Senibina, 2001) to the point that it had become the primary characteristic that the graduates are known for up to the early 2000s. However, with the internet accessibility became more affordable and available on and near campus, students had access to wider range of references, particularly on esthetically and visually pleasing architecture. At the same time, philosophical and conceptual theoretical design approaches such as Deconstructivism or Critical Regionalism, as well as movements put forward by popular schools at the time such as The Bartlett, Architectural Association, Carnegie Mellon University and M.I.T, became convenient read, gradually creating another end on the stick.

The theoretical approaches became highly popular amongst the students at them, which saw imitative works throughout the cross-section of the school (Senibina, 2007). This was viewed favourably by many members of the school as an outcome of globalization, which was a very popular catchphrase at the turn of the century. The introduction of the 5-year programme in 2002, combined with the rapid digitalization of the architectural programme, created a dilemma where the traditional technical-centric approach was rapidly falling out of favour amongst the

members of the School. And this created a conflict as all design studio documentations at the time still have strong technical requirements written, such as the Studio Rubric (Senibina, 2007). Initially the School regarded the 5-year programme as a short term implementation to align with other architectural programmes in Malaysia. However, the 5-year programme ran for about 10 years before being replaced, amplifying the confusion on the identity of the programme.

3.2.1. Workbases in the M.Arch 72 Credit Programme

A series of curriculum review workshops held between 2010 to 2011 design and develop the replacement for the 5-year B.Arch programme. Amongst others it sought to remedy the issue by establishing a clear heading of The UTM Architectural Programme. One of the steps taken is to relook at how the Design Studios were run and to create a more reasonable learning curve to bridge between the B.Sc.Arch degree and the subsequent M.Arch degree. The School resolved to create a series of studios with a diversity of specialized focus at the upper end of the architectural studies (the 5th year), as well as celebrate the assortment of members of the School as well. This gave birth to the Thesis Studio Units, formed based on the shared topics of expertise or areas of interests amongst the faculty members. The Thesis Studio Units inherited elements from the previous 3rd year and 4th year studios, rearranged into three semesters:

Table 2 Conversion from Workbase into Thesis Supervisory Units (author)

Workbase	M.Arch TSU
Social-Housing, Vernacular, and Theory and Philosophy	Socio-Culture
Urban Design and Urban Context	Urbanism
Tectonic (Highrise), Environmental & Enviro	Sustainable Technologies

Within these Thesis Studio Units, smaller studio groups similar to the Workbases called Thesis Supervisory Panel would be formed and headed by any member of the School with a LAM Part 2

qualification. The structure of the TSUs and the TSPs contained within it is illustrated in Figure 4 below.

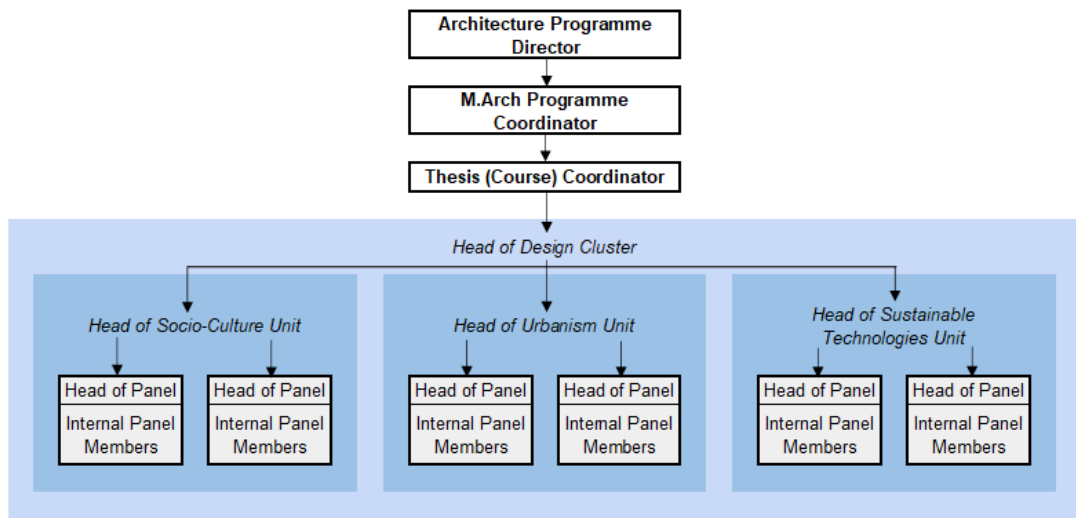


Figure 4 Studio Structure for M.Architecture 72 Credits (Mat Yasir, 2021)

During the establishment of the Thesis Studio Unit, it was understood that the three themes will form the core pillars of the UTM Architectural

Programme, therefore forming the basis of its identity. This is inline with the Design Studio focus illustrated in Figure 3 earlier.



Figure 5 Studio Structure for M.Arch 72 Credits (Program Senibina, 2018)

The Architectural Design Thesis still maintains the two-stage format inherited from the 3+3 Integration programme, but then 1st stage expanded into three semesters (Figure 5). This

effectively occupies the two years of the M.Arch studios. Then each Thesis Supervisory Unit is assigned to one of the 1st stages, with the course names and themes as illustrated in Table 3 below.

Table 3 Assignment of TSU to relevant studio courses

Stage	Course	TSU
1A	Design Pre-Thesis I	Socio-Culture
1B	Design Pre-Thesis II	Urbanism
1C	Design Pre-Thesis III	Sustainable Technologies
2	Design Thesis	-

But the themes of the TSUs were not specifically written into the title of the course, so it is often overlooked when one were to look only at the course structure. It is only available in the Thesis Coordinator's documents and the Design Matrix (Jabatan Senibina, 2016). The intention for this was to keep the conversion to the 3+2 programme as minimum as possible, therefore most of the courses retain similar names, outlines, outcomes and contents from the 5-year B.Arch programme. Eventually, the M.Arch 72 credits programme was launched and took its first cohort of students in 2012.

As more and more architectural schools started their own M.Arch (LAM Part 2) programme, it became clear to the School that the 72 Credit programme is cumbersome and overburdening for both the student and the lecturers. Originally, the design of the M.Arch 72 Credit programme were meant to better reflect the actual amount of work done based on the Student Learning Time (SLT). Although it did achieve that outcome to a certain extent, it also caused the programme to be viewed unfavourably heavy when compared to other M.Arch programmes.

3.2.2. Upgrading into the M.Arch 60 Credit Programme

Another curriculum review was held 2018 with the objective of reducing the number of credits from 72 to 60, in-line with other architectural programmes offered in Malaysia. The School took this opportunity to further refine the M.Arch programme by restructuring some of the courses (Figure 6). The Stage 1 Design Studio course (Design Pre-Thesis) originally 9 credits is split

into two smaller courses: The pre-thesis studio course (carrying 6 credits) and the companion subject course (3 credits).

The companion subjects requisitioned components that used to be a part of the Design Pre-Thesis studio:

- i. Manuscript Writing (report, journal article)
- ii. Seminar (group studies and presentation)
- iii. Generic Skills Development (activities)

Series of thematic lecture inputs that used to be a part of the Design Pre-Thesis studio are now offered in this companion subject to allow more studio time to be dedicated at design development. At the same time, it also introduced a new component that was previously assessed as Course Learning Outcome (CLO) 3 in the Design Pre-Thesis Studio into an assignment called the Argument Board, to be assessed integratively at the end of the semester.

As illustrated in Figure 6, the companion subjects now fell under the jurisdiction of the Cultural Context and Technology and Environment subject clusters. The subjects were given names reflecting their specific area of focus, and this became the defining characteristics of a particular Design Pre-Thesis studio when taken together. The companion subjects provide flexibility in running the masters studios as an additional layer of complexity for students to explore and develop their ideas on. The focus on topics need not to be embedded in the studio outline itself, allowing for future changes to address new issues or topics.

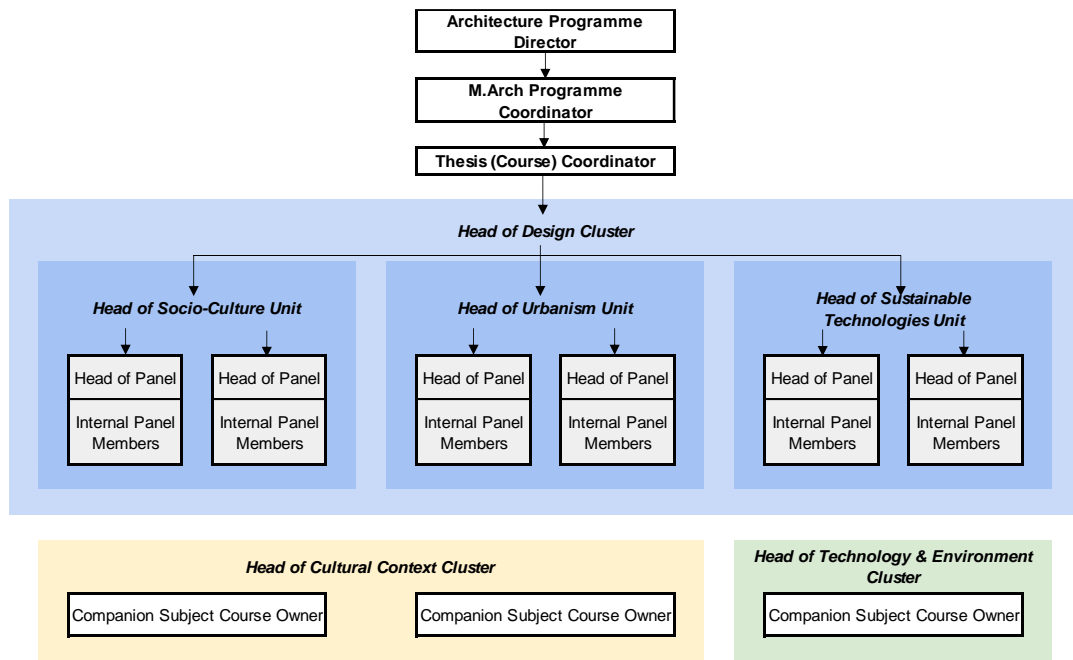


Figure 6 Studio Structure for M.Architecture 60 Credits (Mat Yasir, 2021)

3.3. Thesis Supervisory Panels

In essence, the TSP is expanded from Workbase system used in the lower year studios, housed within one of the Thesis Studio Units. It is the smallest group in the studio with a maximum of

ten students per panel. Since the beginning of the M.Arch programme, it has inherited ten Thesis Supervisory Panels from the older Bachelor of Architecture programme, and ten new ones were formed especially for M.Arch. Details of the panel names can be found in Table 4 below:

Table 4 M.Arch Thesis Supervisory Panel Past and Present (Program Senibina, 2022b)

Inherited Panels	New Panels
HOME, Vector (previously Gen-X), Regionalism, Urban, New Spirit, Environmental, EnviroTectonic (previously Fundamentalism), Reform, Paramatrix (previously X-Factor) and Technovation.	SoCult, Catalyst, Citra, ENVI, Re.Urban (previously Urban Renaissance), Praxis, EnviroArc, Recursive Design Studio, Lestari and Enviro.

It is critical to note that these panels are the embodiment of what the members of the School aspire to explore, based on their own field of expertise or area of interests. The three Thesis Studio Units provide a larger sandbox to play in, but it isn't explicitly limited to it. It provides freedom for students to explore their own interests in architecture through the project of their choice (Syed Ariffin, 2008). Similarly with the Workbase, a TSP is led by a Tutor called the Head of Panel appointed by the School. In addition to that, a TSP is also made of at least two other Internal Panel Members, consisting of academicians, professional architects or experts. The three-member panel started in 1998 when the

number of students in the sixth year of the 3+3 programme became large enough that the one-on-one supervision previously used became cumbersome, particularly during the final year assessment (Syed Ariffin, 2008).

Grouping the members of the School together encourages cross-learning between the students as well as promoting them to get second or third opinion during the development of the thesis. This format was maintained since then, with panel members being shuffled every now and then to keep the group dynamics fresh and challenging. New panels can be formed based on configuration of expertise in the School at the time, aspiration towards new or alternative topic

of interests, or to fill in spaces left by members who have left the School.

Although some TSPs are firmly embedded under its respective units, it does not limit the lecturers from transitioning to a different unit, even if the unit is outside their field of expertise. It is quite often that a TSP would consist of members from different backgrounds. For example, under the New Spirit panel (Figure 7), Dr. Sharifah Salwa is an expert in urban design and Space Syntax; Dr. Muhammad Faizal on interior design; while Dr. Lim Yaik Wah is an environmental design expert.

Combined, they would enrich the students with a plethora of ideas and perspectives, more in-line with what is commonly practiced in the industry. As Head of New Spirit, Dr. Sharifah is still incharge of the project, brief and heading of the TSP, and the panel members are always encourage to engage the students in discussions and conversations about their works to stretch their horizons rather than being too focused in one particular idea. The following diagram is the M.Arch Architectural Design Thesis teaching staff composition, with two TSPs making up a Thesis Studio Unit, accompanied by a companion subject for each unit (Program Senibina, 2022a).

	SOCIO-CULTURE		URBANISM		SUSTAINABLE TECHNOLOGIES	
	VECTOR	CATALYST	NEW SPIRIT	URBAN RENAISSANCE	RECURSIVE DESIGN	ENVIRO
Head	PM Dr. Khairul Anwar b Khaidzir	PM Dr. Alice Sabrina bt Ismail	Dr. Sharifah Salwa bt Syed Mahdzar	Ar. Chan Wai Lai	Azari b Mat Yasir	Dr Roshida bt Abdul Majid
Internal 01	Dr. Iziq Eafifi b Ismail	Ts. Dr. Shahariah Norain bt Shaharudin	Dr. Muhammad Faizal b Abdul Rani	Dr. Aiman b Mohd Rashid	Dr. Leng Pau Chung	Dr. Tengku Intan Suraya bt Tengku Aziz
Internal 02	Dr. Lim Yong Long	Dr. Azalliah Ramdani bt Musa	PM Dr. Ar. Lim Yaik Wah	Dr. Doris Toe	Ar. Hanis Nazurah bt Abu Hassan	TS. Ar. Noraslinda bt Abdul Rahman
Companion	PM Dr. Khairul Anwar b Khaidzir		Dr. Sharifah / Dr. Wan Mohd Zakri / Ar. Chan Wai Lai		Dr. Izura bt Tukiman	

Figure 7 M.Arch Thesis Supervisory Panel Line-up for 2021/2022 semester 2 (Program Senibina, 2022b)

3.4. Formation of Thesis Supervisory Panels (TSP)

Supervising and scrutinizing through the students works meticulously four to five times a semester became more taxing to the lecturers as problems became more complex, deeper issues to tackle, and solutions subjected to a barrage of tests and experiments. Students are also required to present their works covering the objectives, studies and theoretical framework on top of the design project. This is critical in order to demonstrate understanding of a complete scheme from ideation to execution (Tafahomi, 2021). As the school aspires to expand its size, more panels need to be opened to accommodate larger student population. Following the maximum allowable lecturer-student ratio of 1:10 set by LAM (Majlis Akreditasi dan Pengajian Senibina Malaysia, 2013), each new panel would open up 10 spots for M.Arch studies.

Despite allowing each TSP to flourish in its own field of expertise, this requirement limits the ability for the UTM Architecture Programme to expand rapidly, as The School would have to ensure it has sufficient man-power in order to run

the programme accordingly. Each semester, the Thesis Coordinator with the M.Arch Programme Coordinator would decide on the number of panels to offer, taking into consideration the aspects mentioned earlier. Candidates for Head of Panels along with Internal Panel Members within a TSU would be suggested to the Programme Director, whom will be incharge to appoint them to form the TSP.

3.5. Swapping and Closing down of Thesis Supervisory Panels

Keeping up with the dynamics of the School, the TSP line-up is often changed to allow experts with different interests, experience and ideas to take up the mantle as head of a TSP. Handling a group of masters students who are more mature and often already exposed to some industry experience opens up possibilities of handling deeper, more complex and more challenging subjects. Therefore it offers a mutually beneficial relationship between the student and the lecturer, as well as the School and the University as a whole. A common example is for the Head of Panel to engage the students in his or her research or projects, such as New Spirit panel with Dewan

Bandaraya Kuala Lumpur on Ampang Great Street studies(Program Senibina, 2021), and Recursive Design Studio's facade prototyping project under the Living Lab initiative .

As more opportunities arise, members of the Schools should be given the chance to head a TSP and encourage students to be a part of something bigger than just the studio. The New Spirit Head was rotated to 3rd year studios to make way for Dr. Hazrina Haja Bava Mohidin to run her Praxis studio in 2018/2019 semester 1 (Figure8). Similar arrangement occurred a year earlier in 2017/2018 semester 1 when Vector was rested to establish

Regionalism panel headed by Dr. Alice Sabrina Ismail. At the time, there was a strong urge to focus on regional and heritage architecture, which used to be one of the strength of the School. Regionalism panel last took students in 2012 during 5-year B.Arch, and was dormant throughout the M.Arch years.

Later Regionalism was taken over by Dr. Raja Nafida with support of Pusat KALAM (Centre for the Study of Built Environment in the Malay World) research center, while Dr. Alice Sabrina proceeded to form her own Socio-Culture panel called Catalyst.

	Head of Panel	2013/14		2014/15		2015/16		2016/17		2017/18		2018/19		2019/20		2020/21		2021/22		
		Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	
SOCIO-CULTURE	Tareef			HOME	HOME	HOME	HOME	HOME	HOME	HOME	HOME									
	Halim	SoCult	SoCult	SoCult																
	Samsiah				SoCult	SoCult	SoCult	SoCult	SoCult	SoCult	SoCult									
	Khairul		Vector			Vector	Vector	Vector	Vector						Vector	Vector	Vector	Vector	Vector	
	Raja Nafida											Regionalism								
	Alice									Regionalism	Regionalism	Catalyst	Catalyst	Catalyst			Catalyst		Catalyst	
	Mahmud											Citra								
	Roshida											ENVI	ENVI							
	Wan Zakri		Urban I	Urban I																
	Wan Hashimah		Urban II	Urban II	Urb.United	Urb.United	Urb.United	Urb.United	Urb.United	Urb.United	Urb.United									
Sharifah		New Spirit	New Spirit	New Spirit	New Spirit	New Spirit	New Spirit	New Spirit	New Spirit	New Spirit			New Spirit	New Spirit	New Spirit	New Spirit	New Spirit	New Spirit	New Spirit	
Chan WL										Urb.Ren	Urb.Ren	Urb.Ren	Urb.Ren	Urb.Ren					Re.Urban	
Hazrina												Praxis								
SUSTAINABLE TECHNOLOGIES	Zin K				Environe ntal	Environe ntal	Environe ntal	Environe ntal	Environe ntal											
	Remaz	Env.Tec	Env.Tec	Env.Tec	Env.Tec	Env.Tec	Env.Tec													
	Lim YW							Env.Tec	Env.Tec											
	Amin								Env.Arc	Env.Arc	Env.Arc									
	Rashid		Reform																	
	Azari											Recursive	Recursive				Recursive	Recursive	Recursive	
	Doris											Lestari	Lestari							
	Roshida																Enviro	Enviro	Enviro	
	Razin																			TRD Group

Figure 8 M.Arch Thesis Supervisory Panels offered according to session/semester (Program Senibina, 2022b)

TSP can also be suspended or closed down for various reasons or needs. Typically, the number of available TSP is determined by the contemporary enrolment of pre-thesis students,

where bigger student population warrants new panels to be opened while smaller population would suspend one or two panels.

Table 5 TSP abbreviation and full name

Abbreviation	Full Name
HOME	Housing and Community
SoCult	Socio-Culture
ENVI	Environmental Behaviour
Citra	Citra Regionalisme
Urb.Ren	Urban Renaissance
Recursive	Recursive Design Studio
Env.Tec	Environmental Tectonic
Env.Arc	Environmental Architecture
TRD Group	The Responsible Designer Group

Since the beginning of M.Arch, the smallest number of operating TSP was four. This happened in 2019 and continued for three semesters due to the reduction of teaching staff where the retiring members were not replaced quickly enough by newer members. This effectively reduces the size of the student population in order to keep the staff:student ratio within the LAM's stipulated numbers.

Although this measure was meant to be temporary, but it was followed by the COVID-19 pandemic that saw schools closed as a precautionary measure. The student numbers remained low (under 50 students) for the next 18 months. In a proactive measure to keep the diversity of the M.Arch panels open, some panels are kept open at half capacity. Keeping them open allows more lecturers to be involved at the post-graduate studio levels, which was particularly important when cross-exposure of the younger lecturers are needed before more senior members leave the School.

Throughout the years, three long-term TSP have closed indefinitely: HOME, SoCult, Urban (Urban I, Urban II and Urban United) and Enviro-Tectonic. As discussed earlier in this paper, the TSPs are a manifestation of the undergraduate studio workbases, and are in essence led by the individual lecturers. Some TSPs are so intertwined with the lecturer incharge that the entire aspiration and movement inspired by the panel ends when the lecturer left the School.

4. CONCLUSION

As initially outlined earlier, this paper provides a narrative on the Thesis Supervisory Panels in UTM's Architectural Design Thesis programme. The Design Thesis used to be just the final major design exercise before the students graduate undertaken during the final year of B.Arch, but it has evolved into a complex, manifesto driven exploratory studies centered around the students' own interests. Their accumulated knowledge, skills and abilities will be tested to ensure they fulfill the requirements of LAM's Graduate Attribute.

Keeping track of the growth and development of the TSPs is critical for the future of the school, as the School ventures deeper into

various niche areas. After all, the School has experienced a situation when Workbases became too individualized that the students felt lost and too different from each other. This paper amongst others would highlight the heading of the School from the perspective of the Architectural Design Thesis.

Finally, it is hoped that this paper would provide an understanding of what goes on behind the programme, particularly with regards of the Thesis Supervisory Panels. The uniqueness of the programme has been acknowledged by the visiting External Examiners as well as Accreditation Panels from MAPS Malaysia, and the School strives to maintain and further expand it in the future.

5. ACKNOWLEDGEMENT

The authors sincerely acknowledge Architecture Programme of Universiti Teknologi Malaysia (UTM) for allowing access to data and information relevant for the production of this paper.

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