



UNIVERSITAS
AIRLANGGA

FACULTY OF
MEDICINE

FACILITY MASTER PLAN

Faculty of Medicine Universitas Airlangga 2021-2025

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FOREWORD

To God be the glory, this book of Facility Master Plan Faculty of Medicine Universitas Airlangga (FMUA) year 2021-2025 was completed on time. This book is indeed a substantial support to the Universitas Airlangga's SMART grand plan in terms of supporting the vision, mission, and objectives of the Faculty of Medicine at the Universitas Airlangga, whose excellence is in pursuing innovative basic, applied, and health policy research, as well as supporting the vision, mission, and objectives of the Faculty of Medicine at the Universitas Airlangga. This book is intended to serve as a reference for all branches, explaining the study tree diagrams used at the Universitas Airlangga's Faculty of Medicine, as well as how the research Road Map functions.

Upon that moment, as Dean of the Faculty of Medicine at the Universitas Airlangga, I would like to express my appreciation to our dear lecturers who have contributed to the development of this journal. Obviously, this book is far from complete, and we will greatly welcome any feedback and suggestions about how to develop this study master plan by the Faculty of Medicine Universitas Airlangga in the future.

Surabaya, April 1st 2021




Prof. Dr. dr. Budi Santoso, Sp. OG(K)

Dean of Faculty of Medicine Universitas Airlangga

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CHAPTER 1

BACKGROUND

The quality standards of an academic institution affects the quality of graduates. The availability, quantity, and quality of facilities should be tailored to the needs of each study program, the conditions of each Faculty/Department, and the direction of policies that determine the priority of the University. For efficiency, a Facility Master Plan must be formulated in an integrated manner, so that it can be used by all study programs that require it.

Students must be able to succeed in an international environment and possess competencies that are in line with the demands of scientific, technological, and artistic advancement as well as the needs of a workplace, according to the modern educational model. As a result, the Facility Master Plan must adhere to the preparation, process and applicability of the curriculum. Infrastructure and service must be arranged in a more functional and reliable manner. The presence of a Facility Master Plan improvement program at Faculty of Medicine Universitas Airlangga will allow to explain the measures toward our aim of being Asia's top university.

This book offers advice to faculties and departments regarding how to execute Facility Master Plan quality improvement in their own settings. This book is also intended to serve as a guide to improve the results of our works. It is also hoped that this book would assist instructional administrators or those in support of work units in the Faculty of Medicine Universitas Airlangga in managing study programs by taking into account the quality requirements that have been developed for quality assurance of equipment and facilities that may vary from one another.

CHAPTER 2

FOUNDATION OF FACILITY MASTER PLAN IN UNIVERSITAS AIRLANGGA

2.1. Vision, Mission, and Objectives of Universitas Airlangga

2.1.1. Vision of Universitas Airlangga

To become a university who is independent, innovative, and renowned on national and international basis, the lead of knowledge development, technology, and humanities based on religion morals.

2.1.2. Mission of Universitas Airlangga

1. Conduct and evolve the education of academic, profession, and/or vocation with world class standard referring to nation values and religion morals;
2. Conduct the research of basic, applied, and policy which are innovative with world class standard referring to nation values and religion morals to encourage education development and community service
3. Devote the expertise in the field of science, technology, humanities, and art toward community
4. Manage university independently with good governance through institutional growth which is quality oriented and the ability to compete internationally

2.1.3. Objectives

1. Obtain international recognition as one of university which is placed as 460th world best universities ranking by QS WUR and 200th best universities ranking by Times Higher Education WUR on 2024.
2. Universitas Airlangga achieve sufficiency and independence in finance on 2025.
3. Universitas Airlangga achieve well-preparedness in human capital, information capital, and organizational capital.
4. Manifest excellence in the fields of academic, research, community services, and university holding.

2.2. Vision, Mission and Objectives of Faculty of Medicine Universitas Airlangga

2.2.1. Vision

To become a Faculty of Medicine who is independent, innovative, and renowned on national and international basis, the lead of knowledge development, health technology, entrepreneurship and humanities based on religion morals.

2.2.2. Mission

1. Conduct and evolve the education of academic, profession, and/or vocation with world class standard referring to nation values and religion morals;
2. Conduct the research of basic, applied, and policy health which are innovative with world class standard referring to nation values and religion morals to encourage education development and community service
3. Devote the expertise in the field of science, health technology and humanities with entrepreneurial spirit for public health
4. Manage faculty independently with good governance through institutional growth which is quality oriented and the ability to compete internationally

2.2.3. Objectives

1. Obtain international recognition as one of Faculty of Medicine which is placed as 431-440 world best universities ranking by QS WUR.
2. Universitas Airlangga achieve well-preparedness in human capital, information capital, and organizational capital.
3. Manifest excellence in the fields of academic, research, community services with entrepreneurial spirit.

CHAPTER 3

FACILITY MASTER PLAN

The Facility Master Plan consists of budget planning of the Faculty of Medicine Universitas Airlangga for the next 5 years, consist of seven topic including; AMEC – GRAHA BIK IPTEKDOK Connecting Bridge Construction, Creation of Mini Studio for Webinars and Learning Content Creation, Laboratory Development, Development of hybrid learning equipment, Expansion of Internet Connectivity for CBT Room 3, Network Equipment for Maintenance and Upgrade of Internet Infrastructure, and Lecture equipment. The brief summary is as follows:

No.	ACTIVITIES	2021	2022	2023	2024	2025	TOTAL
1	AMEC – GRAHA BIK IPTEKDOK Connecting Bridge Construction	1.100.000.000					1.100.000.000
2	Creation of mini studio for Webinars and learning content creation	149.570.000	119.445.000				269.015.000
3	Procurement of laboratory equipment for Integrated Laboratory	2.769.833.000	3.454.808.500				6.224.641.500
4	Procurement of laboratory equipment for Biology Laboratory	306.372.000					306.372.000
5	Procurement of laboratory equipment for Pathology Anatomy Laboratory	127.224.240					127.224.240
6	Laboratory equipment			1.500.000.000	1.500.000.000	1.500.000.000	4.500.000.000
7	Procurement of disposable reagents and equipment	800.000.000	800.000.000	800.000.000	800.000.000	800.000.000	4.000.000.000
8	Development of hybrid learning equipment	82.472.500	82.472.500				164.945.000
9	Expansion of internet connectivity for CBT room 3	200.018.500					200.018.500
10	Network equipment for maintenance and upgrading of faculty internet infrastructure	250.000.000	250.000.000	250.000.000	250.000.000	250.000.000	1.250.000.000
11	Procurement of fixed supporting assets and lecture equipment (Computer, LCD, AC, Printer, etc)	1.775.000.000	1.775.000.000	1.775.000.000	1.775.000.000	1.775.000.000	8.875.000.000
							27.017.216.240

3.1. AMEC – GRAHA BIK IPTEKDOK Connecting Bridge Construction

In order to optimally achieve the educational objectives, an effective teaching and learning process is needed through the involvement of all components that support it. Infrastructure is one of the component that needs to be developed in order to create an optimal condition for effective teaching and learning. It has a broad strategic impact, such as a sense of security, a sense of belonging, serenity and other positive things, which of course will also affect the level of achievements. In this modern teaching process where the curriculum is also evolving, medical students not only learn through lectures where the lecturer gives a presentation about the topic, but have to provide the opportunity to hone clinical skills so that they are capable in handling patients after they graduate. In clinical skills training, there will be a simulation using mannequin or a trained simulation patient.

Faculty of Medicine utilizes Graha BIK IPTEKDOK building and AMEC (Airlangga Medical Education Center) building for clinical skills training and OSCE test. When OSCE and training is held, each room has to be already set based on what the scenario needs. Because of that, mannequins and other tools needs to be moved repetitively. This has been an obstacle for some time, since all tools have to be moved from one building to another. The transportation of these devices from 3rd or 4th floor in Graha BIK IPTEKDOK building to 5th and 6th floor of AMEC building uses trolley. These things make the mannequins and other tools more vulnerable to be broken. Therefore, we need a bridge to connect both buildings to make the transfer of equipment for the lecture and OSCE test be more effective.

Hopefully, the bridge that connects Graha BIK IPTEKDOK building and AMEC building will also make electrical power consumption more efficient, since at the present, the elevator is the main method of transportation. The planned budget for the bridge construction is Rp 1.100.000.000, and is planned to take place in the year 2021. The details are as follow:

Budget Plan for AMEC – GRAHA BIK IPTEKTOK Connecting Bridge Faculty of Medicine Universitas Airlangga Construction 2021

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Initial Works	1	lot	1.100.000	1.100.000
2	Ground Works	1	lot	1.882.628	1.882.628
3	Foundational Works	1	lot	104.596.881	104.596.881
4	Concrete Works	1	lot	57.761.569	57.761.569
5	Steel Works	1	lot	632.355.668	632.355.668
6	Wall Plastering	1	lot	709.393	709.393
7	Door Installment	1	lot	3.413.025	3.413.025
8	Fencing & Roofing	1	lot	105.284.456	105.284.456

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
9	Floor Installment	1	lot	5.876.800	5.876.800
10	Paintjob	1	lot	21.660.000	21.660.000
Total cost of physical construction Rp.					934.640.420
Planning Rp.					37.380.732
Supervision Rp.					28.035.549
Total Rp.					1.000.056.701
Rounding Rp.					1.000.000.000
Value-Added Tax Rp.					100.000.000
Total Cost Rp.					1.100.000.000

3.2. Creation of Mini Studio for Webinars and Learning Content Creation

The COVID-19 pandemic has significantly transformed in the learning process at Faculty of Medicine Universitas Airlangga (FMUA) . The development in number of COVID-19 cases and heightened risk of transmission resulted in migration of the learning process online. The number of teaching staff aged over 50 years and with comorbidities have put these staff in risk groups for COVID-19 outcomes.

FMUA strives to maintain learning process quality through online education. Quality of online learning experience is determined by internet connectivity technologies, as well as audio visual and internet of things (IOT) facilities. Online lectures are needed to maintain interaction and open channel of discussion between lecturers and students. To meet this need, the Faculty accelerated rollout of learning infrastructure such as a mini studio to support online activities, such as Zoom webinars and creation of learning content.

This studio was designed for online learning while maintaining interaction and feedback between teachers and students as a priority. This studio is also available for recording of lecture materials and webinars while conforming to health protocols instituted in the COVID-19 pandemic. This studio is located in room 303 of the 3rd floor of the Airlangga Medical Education Center (AMEC) building. The procurement of studio equipment is planned to be completed in two years, starting from 2021 to 2022 with a total budget of 296.015.000 rupiah with details of 149.570.000 rupiah in 2021 and 119.445.000 rupiah in 2022. Details of procurement fund are described in the section 3.7.

3.3. Laboratory

3.3.1 Laboratory Equipment

Universitas Airlangga aims to be in the 500 World Class University and then improve to 300 World Class University need the better research activity. In 2020, Faculty of Medicine Universitas Airlangga have a target to achieve 643 publications in scopus-ranked journals and

have achieved 625 publication. This is a satisfactory achievement, but the citation and the quality still need to be supported. This number of publications is still not equal to the amount of the lecturers, where in average every lecturer produces 2 manuscript and 4 citation in 2020. This is a challenging because to produce high quality publication and citation need to involve various parties. Laboratory facilities and other supports is one of the most important things that we need to achieve the target.

Therefore, the Faculty of Medicine Universitas Airlangga created an Integrated Laboratory with the aim of providing research facilities and services both internally and externally, coordinating the department's laboratory tools and functions to create effective and efficient research, supporting the creation of high-quality research that can increase the number of citations and university rankings, as well as improving the quality of scientific works by collaborating with an external laboratory at the Faculty of Medicine Universitas Airlangga.

Laboratory equipment with the latest technology and other supporting materials are necessary to achieve this objective. In addition, many laboratory equipment in the department are no longer suitable to be used in research, teaching, and learning processes. The Faculty of Medicine Universitas Airlangga, feels the need to immediately rejuvenate the equipment, which will be carried out in stages by providing a budget for the procurement of laboratory equipment every year.

3.3.2 Integrated Medical Laboratory

Integrated laboratory in the education system is a necessity. The use of the laboratory as a place for research and completing the final project is a necessity for students at all levels. Laboratory is also a supporting facility in the publication process related to research. The availability of facilities and infrastructure in the field of research is not only focused on specific departmental laboratories but can also be carried out in collaborative with non-departmental laboratories with many human resources and tools.

The Integrated Laboratory has five very important laboratory components. The first is the Genomics and Proteomics laboratory, it focuses on molecular research, especially genomes and proteins. The second is the Immunology Laboratory, which focuses on the interaction of the immune system and the structure and aspects of a wide range of diseases from infection to cancer. The third is the Cell and Tissue Culture Laboratory, focuses on cell and tissue culture that can be used for pharmacological studies of drugs to the structure and mechanism of disease. The fourth is Human Genetic Laboratory, which focuses on human genetic biology for its application to clinical aspects. And the Fifth is Animal Experimental

Laboratory, this laboratory prepares experimental animals for physiological to clinical studies, prepares models in disease mechanism research and drug studies.

3.3.3 Development in the Next 5 Years

Requirement for new tools in research services is very significant for the development of laboratories in the future, for example Immunofluorescent microscopy is a tool used to detect the presence of molecules outside and inside cells. This tool is needed in Research on disease mechanisms. Elisa Reader is a tool that uses the photometer principle, which can detect molecular levels in body fluids using immunological methods. This tool is needed in detecting the presence of molecules that are biomarkers from mechanisms of disease. Contrast phase microscopy is used in the field of cell and tissue culture. In Molecular development, tools such as Real Time PCR detection are needed to support it.

Therefore, laboratory equipment with the latest technology and other supporting materials needed and requires to support this. In addition, many laboratory equipment in the department are no longer suitable to support research, teaching and learning processes, therefore the Faculty of Medicine, Airlangga University, feels the need to immediately rejuvenate the equipment, which is done in stages by providing a budget for the procurement of laboratory equipment every year.

Procurement of Laboratory Equipment for an Integrated Laboratory of Faculty of Medicine Universitas Airlangga is planned to be completed in 2 years; Rp 2.769.833.000 in the 2021, and Rp 3.454.808.500 in the 2022, with a total cost of Rp 6.24.641.500. The procurement of Laboratory Equipment for the Medical Biology Laboratory of Faculty of Medicine Universitas Airlangga is planned to have a budget of Rp 306.372.000 and carried out in the year 2021. The procurement of Laboratory Equipment for the Anatomical Pathology Laboratory of Faculty of Medicine Universitas Airlangga is planned to have a budget of Rp 127.224.240 and carried out in the year 2021. The procurement for laboratory equipment of the Faculty of Medicine Universitas Airlangga is planned to have a budget of Rp 1.500.000.000 per year for three consecutive years, starting from 2023 until 2025. The total amount of the spent budget will be Rp 4.500.000.000. The procurement for reagent and consumable laboratory equipment is planned to have a budget of Rp 800.000.000 every year for five consecutive years. The total amount of the spent budget will be Rp 4.000.000.000. The details of the budget plan are as follow:

Budget Plan for Laboratory Equipment Faculty of Medicine Universitas Airlangga 2021

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Olympus Inverted Microscope for Phase Contrast Basic Set Complete with Measuring Digital Camera	1	unit	356.250.000	356.250.000
2	Olympus Microscope Immunofluorescence BX53 with Cytopower	1	unit	1.150.000.000	1.150.000.000
3	BioRad Microplate Reader	1	unit	232.980.000	232.980.000
4	BioRad Microplate Washer	1	unit	276.100.000	276.100.000
5	Beckman Coulter Mini Cetrifuge	1	unit	60.500.000	60.500.000
6	Thermo Sci Nano Drop One	1	unit	280.500.000	280.500.000
7	Thermo Sci Hotplate Magnetic Stirer	1	unit	7.260.000	7.260.000
8	Eppendorf Micropipette 0.1 - 2.5 ul	2	unit	8.690.000	17.380.000
9	Eppendorf Micropipette 0.5 - 10 ul	2	unit	8.690.000	17.380.000
10	Eppendorf Micropipette 10 - 200 ul	2	unit	8.690.000	17.380.000
11	Eppendorf Micropipette 100 - 1000 ul	2	unit	8.690.000	17.380.000
12	Eppendorf Multichanel Microplate 10 - 100ul	2	unit	21.230.000	42.460.000
13	Eppendorf Multichanel Microplate 30 - 300ul	2	unit	21.230.000	42.460.000
TOTAL Rp.					2.518.030.000
Value-Added Tax Rp.					251.803.000
TOTAL COST Rp.					2.769.833.000

Budget Plan for Laboratory Equipment Faculty of Medicine Universitas Airlangga 2022

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Refrigerated Laboratory Centrifuge MPW-380R	1	unit	370.000.000	370.000.000
2	BioRad Real Time PCR	2	unit	1.320.000.000	2.640.000.000
3	BioRad Electrophoresis Chamber	1	unit	56.100.000	56.100.000
4	Thermo Sci Vortex	1	unit	9.020.000	9.020.000
5	Benchmark Sci Spin Down	1	unit	9.515.000	9.515.000
6	Pipette Boy Integra	2	unit	14.850.000	29.700.000
7	Eppendorf Rak Micropipette Carrousel	2	unit	13.200.000	26.400.000
TOTAL Rp.					3.140.735.000
Value-Added Tax Rp.					314.073.500
TOTAL COST Rp.					3.454.808.500

Budget Plan for Medical Biology Laboratory Equipment Faculty of Medicine Universitas Airlangga 2021

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Three Axis Hanging Joystick Oil Hydraulic Micromanipulator for Nikon	1	unit	276.540.000	276.540.000
2	Box Transformer Nikon Lamp 12V100W	1	unit	1.980.000	1.980.000
TOTAL Rp.					278.520.000
Value-Added Tax Rp.					27.852.000
TOTAL COST Rp.					306.372.000

Budget Plan for Anatomical Pathology Laboratory Equipment of Faculty of Medicine Universitas Airlangga 2021

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Olympus Microscope Digital Camera DP22	1	unit	276.540.000	115.658.400
TOTAL Rp.					115.658.400
Value-Added Tax Rp.					11.565.840
TOTAL COST Rp.					127.224.240

3.4. Development of hybrid learning equipment

Learning materials in the Faculty of Medicine consists of knowledge of medical sciences as well as clinical skills. The COVID-19 pandemic has severely impacted the learning process of students, notwithstanding those at the Faculty. The process of online learning does not immediately accommodate the acquisition of clinical skills which heavily relies on individual instruction and personal interaction. In accordance with the Rector Circular no 691/UN3/PK/2021 on TEACHING AND LEARNING PROCESSES IN THE SECOND SEMESTER OF 2020/2021, learning process at UNAIR during this COVID-19 pandemic will take place online and/or in person.

To fulfill Learning Outcomes (LO), the strategies of blended learning, a blend of online and in person instruction within one subject, hybrid learning, which combines online and in person instruction within one session, and limited in person activities are adopted. Hybrid and blended learning methods will increase efficiency of learning between lecturers and students, which take place face to face in strict protocol while others take part online. This process facilitates active interaction between lecturers and students. In order to accommodate this process, blended learning processes have been developed for deployment. Initial use of this method will apply to preclinical undergraduate level students for the subject of Clinical Skills (*Keterampilan Medik/Tramed*). This activity plan has received approval from the Director of Education of UNAIR (Ref no 795/UN3 3/PK/2021, 25 March 2021).

Hybrid and blended learning processes can be enhanced significantly using Internet of Things (IoT) technologies. The equipment necessary for this are listed under mobile hybrid and blended classroom. Mobile hybrid classroom are facilities which support hybrid and blended approaches which are ready to deploy in any existing lecture rooms at the Faculty. These facilities will allow lecturers to provide classical lectures with students attending both in person and online. Mobile facilities are easily transported to adapt with lecture room schedules.

The procurement of hybrid learning equipment is planned to be completed in two years, starting from 2021 to 2022 with a total budget of 164.945.000 rupiah with details of 82.472.500 rupiah in 2021 and 82.472.500 rupiah in 2022. Details of procurement fund are described in the section 3.7.

3.5. Expansion of Internet Connectivity for CBT Room 3

Computer Based Testing (CBT) are tests delivered through the computer medium and internet connection. Computerised delivery of examination items ensure a secure, unique packet of examination questions for each participant. In line with technological development, most conventional examinations have moved online. This CBT system has been applied to the National Professional Qualifying Examination since 2015 and has been adopted to the National Entrance Examination of Prospective Students.

This system is developed to minimize issues of examination material security and integrity, eliminate limitation of test materials stock and production, as well as loss of examination results. The CBT system will streamline costs and processes needed in examinations where printing and handling of physical materials are not necessary. Test results will be available in real time with data available for granular item analysis.

CBT examinations are practical and allow focus of test participants solely on the material at hand. Limitations of physical processes such as blotting of computer-readable examination forms, revision of answers and incorrect entry of personal data are eliminated. Time of completion is individually recorded and clearly displayed for each participant. Effectiveness of test taking allows measurement of individual knowledge without any physical limitations. Uptake of CBT subjects and participants have grown, with the addition of various standardized tests in the learning process, such as the National Entrance Examination, Indonesian Physician Competence Examination and national board examination of medical specialties. During national examinations, the medical specialist colleges will host examination servers thus placing special importance on reliable and fast internet connections.

Therefore FK Unair has planned and implemented increase of the CBT facilities with ample internet bandwidth capacity.

The procurement of internet connectivity for CBT room 3 is planned to be completed in 2021 with a total budget of 200,018,500 rupiah. Details of procurement fund are described in the table below

Budget Plan for Internet Connectivity for CBT Room 3 of Faculty of Medicine Universitas Airlangga 2021

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Belden Cable Cat 6 / roll 100 feet	20	roll	2.400.000	48.000.000
2	HP Proliant JG914A 1620 Managed Switch Hub 48 Port / 1 Giga	2	unit	9.200.000	18.400.000
3	Rack Mount 6U Fortun / Unit	2	unit	1.750.000	3.500.000
4	Connector Lan Cat 6 / Sack	1	sack	1.400.000	1.400.000
5	Shoe Connector 4 Colors / pcs	160	pcs	2.000	320.000
6	Electrical Panel Box 40x60x20 / unit	2	unit	700.000	1.400.000
7	Electrical Cable 4 x 35 mm NYY / meter	100	meter	225.000	22.500.000
8	Electrical Cable 4 x 25 mm NYY / meter for UPS	168	meter	180.000	30.240.000
9	Eterna Electrical Cable 3 x 2,5 mm / roll 100 meter	14	roll	1.875.000	26.250.000
10	MCB Panel Scheineder 20A / unit	24	unit	45.000	1.080.000
11	MMCB 3 Phase Scheineder 125A / unit	2	unit	980.000	1.960.000
12	Handle Panel Box 63A	2	pcs	1.600.000	3.200.000
13	Uticon Electrical Socket Contains 4 / pcs	75	pcs	25.000	1.875.000
14	Copper Skun and Copper Comb / unit	20	unit	35.000	700.000
15	Ties Cable 20 x 40 / sack Contains 100	10	sack	75.000	750.000
16	Ducting Cable 100 x 75	15	pcs	140.000	2.100.000
17	Floor Ducting Cable 48 x 60 mm / meter	80	meter	30.000	2.400.000
18	Electric T Dos and Electric Cross Dos	40	pcs	4.000	160.000
19	Cost of installing the 72 points of the LAN cable / lot	72	lot	150.000	10.800.000
20	Cost of installing the Electrical Cable / lot	6	lot	800.000	4.800.000
TOTAL Rp.					181.835.000
Value-Added Tax Rp.					27.852.000
TOTAL COST Rp.					200.018.500

3.6. Network Equipment for Maintenance and Upgrade of Internet Infrastructure

Internet use has become integrated in daily higher education activities. Electronic journal searching, collaborative research and education process, as well as scientific publication process is inseperable from internet use. The internal coordination of the Faculty of Medicine and UNAIR, ever more important in this pandemic condition, has relied on

reliable online reliable connection. A robust and high speed internet connection in the environs of the Faculty of Medicine UNAIR is a primary need to be tended.

The procurement of network equipment for maintenance and upgrading of faculty internet infrastructure is planned to be completed in five years, starting from 2021 to 2025 with a total budget of 1.250.000.000 rupiah, with details of 250.000.000 rupiah each year.

3.7. Lecture Equipment

The COVID-19 pandemic impacts all teaching process in the Faculty of Medicine Universitas Airlangga. This makes all the teaching process online, but this method is not sufficient to give students the opportunity to achieve the expected outcomes of clinical skills. Offline teaching is still necessary.

The teaching process in Faculty of Medicine Universitas Airlangga will be held both online and/or offline. To achieve the learning outcomes of a medical doctor, a combination of online and offline in one course (blended method) and combination of online and offline in one session (hybrid method) will take place while still adhering to the health protocol and with permission. Hybrid and blended method will increase the efficiency of teaching process because lecturer and half of the student will meet face to face and the other half will meet online. This process will increase the active interaction between lecturer and students.

Hybrid and blended method need technological support that will make the teaching process runs well and efficient. The technology that we need to support this method are:

a. Mobile Hybrid dan Blended Classroom

Mobile hybrid classroom is a technology that will support hybrid and blended method in some lecture room at FMUA. This facility will help lecturer to give lecture and will be joined by students via online or offline. The details of the budget plan are as follow:

Budget Plan of Hybrid Class of Faculty of Medicine Universitas Airlangga 2021

No.	EQUIPMENT	QUANTITY	COST PER UNIT	TOTAL COST	
1	Eagle Eye Cube Camera with Premium Warranty	1	unit	17.500.000	17.500.000
2	Polycom Studio Include Premium Warranty	1	unit	18.600.000	18.600.000
3	Polycom Studio Display Vesa Mounting Kit for TV Bracket	1	unit	4.500.000	4.500.000
4	AIO HP24-df0022d-9EJ08AA Ci5-1035G1 4GB 1TB HDD VGA MX330 2GB W10+ OHS 2019 White	1	unit	13.900.000	13.900.000
5	Smart TV 50" + Standing Bracket	1	unit	8.600.000	8.600.000
6	20 Meters HDMI Cable	1	unit	850.000	850.000
7	Wireless Keyboard & Mouse	1	unit	325.000	325.000
8	Logitech Presenter	1	unit	1.200.000	1.200.000
9	Tripod	1	unit	1.000.000	1.000.000

No.	EQUIPMENT	QUANTITY	COST PER UNIT	TOTAL COST
10	Wireless Clip-On	1 unit	2.800.000	2.800.000
11	UPS APC BX-650II-MS	1 unit	700.000	700.000
12	Supporting Materials	1 lot	2.500.000	2.500.000
13	Setting and Installment Fee	1 lot	2.500.000	2.500.000
TOTAL Rp.				74.975.000
Value-Added Tax Rp.				7.497.500
TOTAL COST Rp.				82.472.500

By the year 2022, the same equipments will be bought again if similar activities ensue.

Budget Plan of Hybrid Class of Faculty of Medicine Universitas Airlangga 2022

No.	EQUIPMENT	QUANTITY	COST PER UNIT	TOTAL COST
1	Eagle Eye Cube Camera with Premium Warranty	1unit	17.500.000	17.500.000
2	Polycom Studio Include Premium Warranty	1unit	18.600.000	18.600.000
3	Polycom Studio Display Vesa Mounting Kit for TV Bracket	1unit	4.500.000	4.500.000
4	AIO HP24-df0022d-9EJ08AA Ci5-1035G1 4GB 1TB HDD VGA MX330 2GB W10+ OHS 2019 White	1unit	13.900.000	13.900.000
5	Smart TV 50" + Standing Bracket	1unit	8.600.000	8.600.000
6	20 Meters HDMI Cable	1unit	850.000	850.000
7	Wireless Keyboard & Mouse	1unit	325.000	325.000
8	Logitech Presenter	1unit	1.200.000	1.200.000
9	Tripod	1unit	1.000.000	1.000.000
10	Wireless Clip-On	1unit	2.800.000	2.800.000
11	UPS APC BX-650II-MS	1unit	700.000	700.000
12	Supporting Materials	1lot	2.500.000	2.500.000
13	Setting and Installment Fee	1lot	2.500.000	2.500.000
TOTAL Rp.				74.975.000
Value-Added Tax Rp.				7.497.500
TOTAL COST Rp.				82.472.500

b. Studio for Hybrid Learning

Studio for hybrid learning is a studio for online lectures that still prioritize the interaction between lecturer and students. This studio can record lecture and for webinars with still obey the standard procedure and health protocol. This studio will be at room no. 303 in 3rd floor of AMEC building. The details of the budget plan are as follow:

Budget Plan of Mini Studio for Online Classes of Faculty of Medicine Universitas Airlangga 2021

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Studio Renovation	1	pkg	50.000.000	50.000.000
2	Vesa Mounting Kit	2	unit	2.000.000	4.000.000
3	Mini PC with Windows 10 License (Intel i7 7xxx or AMD Ryzen Equivalent, 8 GB RAM DDR 4 / SSD 512GB)	2	unit	17.000.000	34.000.000
4	Smart TV 50" + Standing Bracket	2	unit	8.600.000	17.200.000
5	Wireless Keyboard Mouse	2	unit	325.000	650.000
6	Logitech Presenter	2	unit	1.200.000	2.400.000
7	Tripod	2	unit	1.000.000	2.000.000
8	Behringer Xenyx X1222 USB Mixer	1	unit	10.000.000	10.000.000
9	ICA UPS 600 Watt	1	unit	2.320.000	2.320.000
10	Sound System	1	pkg	25.000.000	25.000.000
11	2 x 3 m Green Screen with Background Stand	1	unit	1.500.000	1.500.000
12	3 x 6 m Green Screen	1	unit	500.000	500.000
TOTAL Rp.					99.570.000
Value-Added Tax Rp.					9.957.000
TOTAL COST Rp.					149.570.000

By the year 2022, the same equipments will be bought again to improve the amount of time available for conducting lectures/webinars/meetings

Budget Plan of Mini Studio for Online Classes of Faculty of Medicine Universitas Airlangga 2022

No.	EQUIPMENT	QUANTITY		COST PER UNIT	TOTAL COST
1	Studio Renovation	1	pkg	50.000.000	50.000.000
2	Vesa Mounting Kit	1	unit	2.000.000	2.000.000
3	Mini PC with Windows 10 License (Intel i7 7xxx or AMD Ryzen Equivalent, 8 GB RAM DDR 4 / SSD 512GB)	1	unit	17.000.000	17.000.000
4	Smart TV 50" + Standing Bracket	1	unit	8.600.000	8.600.000
5	Wireless Keyboard Mouse	1	unit	325.000	325.000
6	Logitech Presenter	1	unit	1.200.000	1.200.000
7	Tripod	1	unit	1.000.000	1.000.000
8	Behringer Xenyx X1222 USB Mixer	1	unit	10.000.000	10.000.000
9	ICA UPS 600 Watt	1	unit	2.320.000	2.320.000
10	Sound System	1	pkg	25.000.000	25.000.000
11	2 x 3 m Green Screen with Background Stand	1	unit	1.500.000	1.500.000
12	3 x 6 m Green Screen	1	unit	500.000	500.000
TOTAL Rp.					69.445.000
Valued-Added Tax Rp.					6.944.500
TOTAL COST Rp.					119.445.000

In addition, this year computer-based location for exam will be added at 3rd floor of AMEC building to make coordination easier and more efficient. Every year there are also internet network development and maintenance so the internet connection will be faster. The details of the budget plan are described in section 3.5.

In prospective, the planned budget for the lecture equipments will be Rp 1.775.000.000 every year, starting from 2021, summing up to a total of Rp 8.875.000.000 by the end of the year 2025.

CHAPTER 4

CONCLUSION

Facility Master Plans are instructional elements qualified to help our university to pursue the desired vision of quality improvement at the Faculty of Medicine, Universitas Airlangga. It would be better to achieve its goals if the Faculty of Medicine Universitas Airlangga has resources and facilities that reach the requisite quality requirements and are well maintained. It would also improve the reputation of the Faculty of Medicine Universitas Airlangga at various points in history and build a favorable learning environment.