Mahidol University Faculty of Medicine Siriraj Hospital	**Bachelor of Technology Program in Medical Educational Technology** Faculty of Medicine Siriraj Hospital, Mahidol University (Revised Program 2017)

General Information

1. Curriculum Name

Thai	หลักสูตรเทคโนโลยีบัณฑิต สาขาวิชาเทคโนโลยีการศึกษาแพทยศาสตร์
English	Bachelor of Technology Program in Medical Educational Technology

2. Name of Degree and Sections

Full Title	Thai	เทคโนโลยีบัณฑิต (เทคโนโลยีการศึกษาแพทยศาสตร์)
	English	Bachelor of Technology (Medical Educational Technology)
Abbreviated	Thai	ทล.บ. (เทคโนโลยีการศึกษาแพทยศาสตร์)
	English	B.Tech. (Medical Educational Technology)

3. Major Subjects -

4. Required Credits Not less than 138 Credits

5. Curriculum Characteristics

5.1 Curriculum type/model

Bachelor's Degree, four-year program based on National Qualifications Framework B.E. 2552.

5.2 Type of programme

Bachelor's Degree

5.3 Language

Thai and English

5.4 Recruitment

The admission system should be in accordance with the Announcement of Mahidol University on Open of Admission to Bachelor of Technology Program in Medical Education Technology. Thai and foreign students who can communicate well in Thai language are eligible for application.

5.5 Cooperation with other universities

This program is Mahidol University's program.

6. Opportunities of the graduates

To enter the professions such as academic officer/ officer/ media developer, which are related to medical education, health science, and general knowledge. Potential occupations include medical education technologist, audio- visual technical officer, medical photographer, educational technology officer, graphic designer, website designer and website developer, multimedia developer, desktop publishing designer, medical illustrator, medical model developer, photographer, videographer and video editor which are found in both public and private otganizations. The graduates can also take freelance jobs or choose to continue their education in Master Degree Program.

7. Venue to conduct the study

1. Mahidol Univeristy, Salaya Campus and Faculty of Medicine Siriraj Hospital
2. Educational technology service in public and private organizations (for training experiences)

8. Cooperation with other curricula of the university (if any).

8.1 Courses offered by other faculties

1. Course offered by other faculties

MUGE	101	General Education for Human Development

2. Courses offered by faculty of Liberal Arts

LATH	100	Art of Using Thai Language in Communication
LAEN	103	English Level 1
LAEN	104	English Level 2
LAEN	105	English Level 3
LAEN	106	English Level 4

3. Course offered by faculty of Science

SCBI	109	Integrated Biology

4. Courses offered by faculty of Social Sciences and Humanities

MUGE	102	Social Studies for Human Development
MUGE	103	Arts and Sciences for Human Development

8.2 Courses offered to other programmes

SIET	103	Foundations of Art
SIET	104	Color in Art
SIET	130	Basic Computer
SIET	131	Foundations of Computer Arts

Information of the curriculum

1. Philosophy, justification and objectives of the curriculum

1.1 Philosophy

The Bachelor of Technology Programme in Medical Educational Technology applies student-oriented approach to stimulate quality of learning, utilizes active learning to construct students' knowledge and skills together with professional ethics and creativities, and enables students to transfer theory to practice in the real world with ability to follow the new academic knowledge as well as new educational media and technology related to medical and scientific education in order to benefit the global community.

1.2 Justification

Bachelor of Technology Program in Medical Education Technology is a curriculum that focuses on producing personnel that can support medical learning activities and services in institutes and organizations. This is to respond to the needs of modern and standardized medical and health science educational. It is a vocational group that is significant for the solving of health problems for the population of Thailand. Rapid advancement and development in information technology and medical technology, as well as the improvement of health services in many institutes to meet international standards and corresponds to national policies that aim toward being the center of global health services, and the focus on educational potential development, make occupations related to medical education technology become very important ones. These personnel within medical services and medical sciences gain more significance. That is why our program has been continuously improved and developed, to ensure that there is integration and application of fundamental medical knowledge and technology to create various forms of media and information that are appropriate and of good quality. It should also correspond to social and economic changes. The program aims to produce graduates who have knowledge, abilities, and professional ethics, ready to perform their duties in medical and public health institutes and organizations effectively.

1.3 Objectives

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Foster development of ethics and morality in their profession.
2. Possess scientific and basic medical science knowledge as well as an ability to follow new knowledge of related areas.
3. Development of skills and creativity to design, produce, apply and develop different types of media for medical and health science education.
4. Foster an ability to apply knowledge and skills to solve problems for medical media production tasks.
5. Practice of good human relation skills, which allows the individual to work with others effectively in society.

Educational Management System, Curriculum Implementation and Structure

1. Educational Management System

1.1 System

Semester System

1.2 Summer session

Summer session if offered

1.3 Credit equivalent to semester system

According to MU regulation pertaining to educational management at associate degree and bachelor degree levels B.E. 2552

2. Curriculum Implementation

2.1 Teaching schedule

Learning activities of most subjects are conducted regularly in the semester or on official working days and hours. Learning activities in practical subjects might be conducted outside official working days and hours.

2.2 Qualifications of prospective students

Must be high school graduate or equivalent with all the qualifcations stated in the regulations of Mahidol University on admission of students, must have good behavior, physically and mentally healthy, and have no serious illness or abnormalites that could obstruct learning.

2.3 Educational system

Classroom Mode

2.4 Transfer of credits, courses and cross university registration (If any)

Credits transferring must be in compliance with Mahidol University' s regulation pertaining to educational management at associate degree and bachelor degree levels B.E. 2552

3. Curriculum and Lecturers

3.1 Curriculum

3.1.1 Number of credits 138 Credits

3.1.2 Curriculum Structure

The curriculum structure is set in compliance with Announcement of Ministry of Education on the subject of Criteria and Standards of Undergraduate Studies B.E.2558, as below:

1) General Education Courses	**30**	**credits**
1.1 University Compulsory Courses	**16**	**credits**
o Social science and humanity	7	credits
o Language	9	credits
1.2 Programme's Compulsory Courses	**14**	**credits**
o Social science and humanity	4	credits
o Science and mathematics	8	credits
o General education	2	credits
2) Specialized Courses	**102**	**credits**
2.1 Basic vocational / specific courses	**37**	**credits**
o Art foundation	11	credits
o Basic health science and educational technology	26	credits
2.2 Vocational / specific courses	**65**	**credits**
o Scientific and medical illustration	9	credits
o Computer for media production	12	credits
o Photography	11	credits
o Video Making	8	credits
o Models Making	11	credits
o Integration of skills in medical education technology	14	credits
3) Free Elective Courses	**6**	**credits**

1. General Education Courses — 30 credits

1.1 University Compulsory Courses

1.1.1 Social science and humanity — 7 credits

Credits (Lecture - Practice - Self Study)

MUGE	101	General Education for Human Development #[1]	2 (1 - 2 - 3)
MUGE	102	Social Studies for Human Development #[1]	3 (2 - 2 - 5)
MUGE	103	Arts and Sciences for Human Development #[1]	2 (1 - 2 - 3)

1.1.2 Language — 9 credits

Credits (Lecture - Practice - Self Study)

LATH	100	Art of Using Thai Language in Communication	3 (2 - 2 - 5)
LAEN	103	English Level 1 #[2]	3 (2 - 2 - 5)
LAEN	104	English Level 2 #[2]	3 (2 - 2 - 5)
LAEN	105	English Level 3 #[2]	3 (2 - 2 - 5)
LAEN	106	English Level 4 #[2]	3 (2 - 2 - 5)

1.2 Programme's Compulsory Courses

1.2.1 Social science and humanity — 4 credits

Credits (Lecture - Practice - Self Study)

SIET	103	Foundations of Art	2 (1 - 2 - 3)
SIET	104	Color in Art	2 (1 - 2 - 3)

1.2.2 Science and mathematics — 8 credits

Credits (Lecture - Practice - Self Study)

SCBI	109	Integrated Biology	3 (3 - 0 - 6)
SIET	130	Basic Computer	3 (2 - 2 - 5)
SIET	131	Foundations of Computer Arts	2 (1 - 2 - 3)

1.2.3 General education — 2 credits

Choose from the General Education (Science and mathematics, Languages, Social science and humanity or Health and Recreation) taught by Mahidol University for 2 credits

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#1 refers to the subjects registered in the first and the second semester for they have to be successively studied from one semester to the next, and the evaluation will be done in the final examination of the second semester

#2 refers to English subjects that can be registered 1 course per semester according to the results of Placement Test

2. Specialized Courses			**102 credits**
2.1 Basic vocational / specific courses			**37 credits**
2.1.1 Art foundation			**11 credits**

Credits (Lecture - Practice - Self Study)

SIET	100	Basic Drawing	3 (2 - 2 - 5)
SIET	101	Still Life Drawing	2 (1 - 2 - 3)
SIET	203	Basic Painting	3 (2 - 2 - 5)
SIET	204	Watercolor Techniques	3 (1 - 4 - 4)

2.1.2 Basic health science and educational technology	**26 credits**

Credits (Lecture - Practice - Self Study)

SIET	110	Introduction to Education Technology	2 (1 - 2 - 3)
SIET	111	General Chemistry	3 (3 - 0 - 6)
SIET	214	Language for Medical Education Technology	2 (1 - 2 - 3)
SIET	215	Anatomy for Medical Education Technology	3 (2 - 2 - 5)
SIET	216	Physiology for Medical Education Technology	2 (2 - 0 - 4)
SIET	219	Basic Histology	2 (2 - 0 - 4)
SIET	313	Communication Technology for Medical Education	2 (1 - 2 - 3)
SIET	314	Statistics and Research Methodology	3 (2 - 2 - 5)
SIET	316	Basic Pathology	3 (2 - 2 - 5)
SIET	317	Basic Microbiology, Parasitology and Immunology	4 (3 - 2 - 7)

2.2 Vocational / specific courses		**65 credits**
2.2.1 Scientific and medical illustration		**9 credits**

Credits (Lecture - Practice - Self Study)

SIET	223	Human Drawing	3 (2 - 2 - 5)
SIET	325	Biological Illustration	3 (2 - 2 - 5)
SIET	326	Medical Illustration	3 (2 - 2 - 5)

2.2.2 Computer for media production	**12 credits**

Credits (Lecture - Practice - Self Study)

SIET	232	Publication Design for New Media	2 (1 - 2 - 3)
SIET	332	Animation Production for Medical and Health Science	3 (2 - 2 - 5)
SIET	333	Medical Media Design for Mobile Devices	2 (1 - 2 - 3)
SIET	336	Interactive Multimedia for Medical and Health Science	2 (1 - 2 - 3)
SIET	431	Social Media Development for Medical Education Technology	3 (2 - 2 - 5)

2.2.3 Photography **11 credits**

			Credits (Lecture - Practice - Self Study)
SIET	242	Principle of Photography	4 (2 - 4 - 6)
SIET	243	Studio Photography	2 (1 - 2 - 3)
SIET	342	Basic Medical Photography	2 (1 - 2 - 3)
SIET	343	Clinical Photography	3 (1 - 4 - 4)

2.2.4 Video Making **8 credits**

			Credits (Lecture - Practice - Self Study)
SIET	251	Basic Videography	3 (2 - 2 - 5)
SIET	252	Video Script Writing and Storyboard Illustration	3 (2 - 2 - 5)
SIET	354	Video Production	2 (1 - 2 - 3)

2.2.5 Models Making **11 credits**

			Credits (Lecture - Practice - Self Study)
SIET	260	Basic Sculpture	2 (1 - 2 - 3)
SIET	262	Original Model Making	3 (1 - 4 - 4)
SIET	360	Molding and Casting	3 (1 - 4 - 4)
SIET	362	Medical Model	3 (1 - 4 - 4)

2.2.6. Integration of skills in medical education technology 14 credits

			Credits (Lecture - Practice - Self Study)
SIET	474	Medical Media for Advertising and Public Relations	2 (1 - 2 - 3)
SIET	476	Individual Project: Research and Development in Medical Education Technology	3 (0 - 9 - 3)
SIET	478	Experiences in Medical Education Technology	9 (0 - 27 - 9)

3. Free Elective Courses [#3] **6 credits**

			Credits (Lecture - Practice - Self Study)
SIET	409	Cartoon Drawing	2 (1 - 2 - 3)
SIET	438	Digital Photographic Retouching	2 (1 - 2 - 3)
SIET	439	Digital 3D Modeling	2 (1 - 2 - 3)
SIET	449	Advertising Photography	2 (1 - 2 - 3)
SIET	459	Documentary Making	2 (1 - 2 - 3)

#3 refers to subjects inside the program; students must choose from this group not less than 6 credits

3.1.4 Study plan

First Year

Semester 1

			Credits (Lecture - Practice - Self Study)	
MUGE	101	General Education for Human Development #[1]	2	(1 - 2 - 3)
MUGE	102	Social Studies for Human Development#[1]	3	(2 - 2 - 5)
MUGE	103	Arts and Sciences for Human Development #[1]	2	(1 - 2 - 3)
SCBI	109	Integrated Biology	3	(3 - 0 - 6)
SIET	100	Basic Drawing	3	(2 - 2 - 5)
SIET	103	Foundations of Art	2	(1 - 2 - 3)
SIET	110	Introduction to Education Technology	2	(1 - 2 - 3)
SIET	131	Foundations of Computer Arts	2	(1 - 2 - 3)
LATH	100	Art of Using Thai Language in Communication	3	(2 - 2 - 5)
LAEN	xxx	English Level (1 course from LAEN 103 and 105)	3	(2 - 2 - 5)
		Total	**22**	**Credits#[4]**

Semester 2

			Credits (Lecture - Practice - Self Study)	
MUGE	101	General Education for Human Development #[1]	2	(1 - 2 - 3)
MUGE	102	Social Studies for Human Development #[1]	3	(2 - 2 - 5)
MUGE	103	Arts and Sciences for Human Development#[1]	2	(1 - 2 - 3)
SIET	101	Still Life Drawing	2	(1 - 2 - 3)
SIET	104	Color in Art	2	(1 - 2 - 3)
SIET	111	General Chemistry	3	(3 - 0 - 6)
SIET	130	Basic Computer	3	(2 - 2 - 5)
LATH	100	Art of Using Thai Language in Communication	3	(2 - 2 - 5)
LAEN	xxx	English Level (1 course from LAEN 104 และ 106) #[2]	3	(2 - 2 - 5)
xxxx	xxx	General education course#[3]	2	(x - x - x)
		Total	**18**	**Credits**

#1 refers to the subjects registered in the first and the second semester for they have to be successively studied from one semester to the next, and the evaluation will be done in the final examination of the second semester

#2 refers to English subjects that can be registered 1 course per semester according to the results of Placement Test

#3 refer to subjects that choose from the General Education taught by Mahidol University for 2 credits.

#4 refers to number of credits that include compulsive subjects of about 5 credits needed to be taken throughout the whole academic year.

Second Year

Semester 1

			Credits	(Lecture - Practice - Self Study)
SIET	203	Basic Painting	3	(2 - 2 - 5)
SIET	214	Language for Medical Education Technology	2	(1 - 2 - 3)
SIET	215	Anatomy for Medical Education Technology	3	(2 - 2 - 5)
SIET	223	Human Drawing	3	(2 - 2 - 5)
SIET	242	Principle of Photography	4	(2 - 4 - 6)
SIET	251	Basic Videography	3	(2 - 2 - 5)
SIET	260	Basic Sculpture	2	(1 - 2 - 3)
		Total	**20**	**Credits**

Semester 2

			Credits	(Lecture - Practice - Self Study)
SIET	204	Watercolor Techniques	3	(1 - 4 - 4)
SIET	216	Physiology for Medical Education Technology	2	(2 - 0 - 4)
SIET	219	Basic Histology	2	(2 - 0 - 4)
SIET	232	Publication Design for New Media	2	(1 - 2 - 3)
SIET	243	Studio Photography	2	(1 - 2 - 3)
SIET	252	Video Script Writing and Storyboard Illustration	3	(2 - 2 - 5)
SIET	262	Original Model Making	3	(1 - 4 - 4)
		Total	**17**	**Credits**

Third Year

Semester 1

			Credits (Lecture - Practice - Self Study)
SIET	313	Communication Technology for Medical Education	2 (1 - 2 - 3)
SIET	314	Statistics and Research Methodology	3 (2 - 2 - 5)
SIET	325	Biological Illustration	3 (2 - 2 - 5)
SIET	332	Animation Production for Medical and Health Science	3 (2 - 2 - 5)
SIET	333	Medical Media Design for Mobile Devices	2 (1 - 2 - 3)
SIET	342	Basic Medical Photography	2 (1 - 2 - 3)
SIET	354	Video Production	2 (1 - 2 - 3)
SIET	360	Molding and Casting	3 (1 - 4 - 4)
		Total	**20 Credits**

Semester 2

			Credits (Lecture - Practice - Self Study)
SIET	316	Basic Pathology	3 (2 - 2 - 5)
SIET	317	Basic Microbiology, Parasitology and Immunology	4 (3 - 2 - 7)
SIET	326	Medical Illustration	3 (2 - 2 - 5)
SIET	336	Interactive Multimedia for Medical and Health Science	2 (1 - 2 - 3)
SIET	343	Clinical Photography	3 (1 - 4 - 4)
SIET	362	Medical Model	3 (1 - 4 - 4)
		Total	**18 Credits**

Fourth Year

Semester 1

			Credits (Lecture - Practice - Self Study)
SIET	431	Social Media Development for Medical Education Technology	3 (2 - 2 - 5)
SIET	474	Medical Media for Advertising and Public Relations	2 (1 - 2 - 3)
SIET	476	Individual Project: Research and Development in Medical Education Technology#[1]	3 (0 - 9 - 3)
SIET	xxx	Electives#[5]	6 (x - x - x)
		Total	**14 Credits**

Semester 2

			Credits (Lecture - Practice - Self Study)
SIET	476	Individual Project: Research and Development in Medical Education Technology#[1]	3 (0 - 9 - 3)
SIET	478	Experiences in Medical Education Technology	9 (0 - 27 - 9)
		Total	**9 Credits**

#1 refers to the subjects registered in the first and the second semester for they have to be successively studied from one semester to the next, and the evaluation will be done in the final examination of the second semester

#5 refers to free selective subjects that students can register.

* Courses in the gray band are subjects that students must attend both semesters 1 and 2 but register and take credits to calculate in the first semester.

4. Details of practicum (if any)

To ensure that the graduates have gained fieldwork experience in related vocations to prepare themselves before entering the real working world, the program offers subjects of vocational experience that worth 9 credits.

SIET 478 Experiences in Medical Education Technology

Students suggest the organization where they want to gain the experience. They must be organizations or offices that have standards and are accepted in the field of medical education technology or related educational technology. The list of suggested organizations are presented to the teachers in the program. Then the teachers consider whether the organizations are appropriate, meeting objectives, and conforming to the requirements in that particuarl subject or not. The evaluation is conducted at the end of the training period. The organizations that accept the students to temporarily work with them also participate in the evaluation. The program also arranges a student meeting where the students can present and summarize their learning experience for evaluation and to provide feedback for the improvement of the program to respond better to the needs of the labor market.

4.1 Standard Learning Outcomes of Field Experience

Expected learning outcomes from fieldwork experience are:

1. Demonstrating professional code of conduct and social responsibility when producing the assigned media
2. Applying basic science knowledge to the production of the media
3. Selecting appropriate tools and technology in producing the assigned media
4. Being able to assess the needs for media and content in order to produce various forms of media that effectively meet the needs of organizations
5. Using communication skills effectively in speaking, listening and writing to present and share information with team members.
6. Applying organizational teamwork skills to develop leadership and effective teamwork.

4.2 Time frame

Year 4, semester 2 (see more details in study plan, page 25)

4.3 Class schedule

The program state that students are to gain vocational experience in the selected organizations or offices that have been approved for not less than 405 hours.

5. Thesis/individual project requirement

For individual project, each student must create a work piece by designing and producing educational media. They should apply related knowledge and understanding in which they are to synthesize and develop the work, and should apply technology in producing media to be used in medicines and health science field. They have to produce a documentary report of the project according to the regulations and formats established by the program. All of these must be approved by the teachers, advisors, and the team of teachers responsible for the subject.

5.1 Short description

In doing individual project, students must be able to explain knowledge and theories related to the topic of their project. The objectives and benefits are to be specified clearly. Planning and procedure should be done in step by step and should be completed within a specified deadline. All the workings in the project must be within the framework of applying and using educational technology to design and produce medical and health science media. The students should also respect copyright, ethics and morality, medical profession's code of conduct and general code of conduct.

5.2 Standard Learning Outcomes

Expected learning outcomes from individual proejcts are as followed:

1. Demonstrate respect for intelligence property of others by creating their own work and not plagiarizeing or copying information. Always use appropriate academic references.
2. Apply medical and health science knowledge to produce the media accurately.
3. Being able to explain their planning and procedure in producing the work piece.
4. Able to create the work that has been assigned
5. Able to evaluate complicated circumstances to select an effecitive method in producing medical and health science media.
6. Accurately use communication skills in making presentation and editing the documentary report to be in accordance with research reports format requirement.

5.3 Time frame

Should be register in the first semester but evaluated in the second semester.

5.4 Number of credits

3 credits

5.5 Preparation

The programs offers guidance, basic knowledge, procedure, and process of doing a project. Regular teachers in the program are selected as advisors who advise and follow up the work progress, as well as preparing necessary tools. Specific expertised teachers are selected to give individual guidance.

5.6 Evaluation process

During evaluation, teachers in the program and responsible advisors consider and assess by using rubric scoring established by the program on the following matters:

1. Appropriateness of the topic
2. Progress of work based on student's presentation in each period specified by the program
3. Results, including project report, work piece, and presentation

Learning Outcome, Teachning Strategies and Evaluation

1. Development of Students' Specific Qualifications

Special characteristics that the program expects from the students, including strategies or development activities, as stated in the following table.

Special Characteristics	Strategies or Student Activities
1. Having ethics, morality and attitude	1.1 Provide subjects that have learning outcomes related to ethics and morality. 1.2 Add professional ethics and morality aspects into classes and activities 1.3 Establish rules and regulations for classes and job training
2. Have knowledge, skills and creativity; be able to produce medical and scientific media accurately and effectively according to academic principles.	2.1 Provide subjects that cover related knowledge in particular field 2.2 Add arts and creativity aspects into classes and activities 2.3 Prepare learning activities and extracurriculum activities to increase experience and self-learning skill 2.4 Provide direct experience by using real-life situations as part of learning activities
3. Have good interpersonal relationship, public mind, responsibility toward oneself and society, and respect the rights of patients; be able to work with medical personnel effectively.	3.1 Provide learning activities that require group work in various subjects. 3.2 Provide extra-curriculum activities tha require teamwork and show responsibility and conscious mind toward society. 3.3 Provide subjects that have shared learning activities and experience with other programs and work units related to educational media inside and outside the organization.

2. Development of Learning Outcome in Each Objective

2.1 Expected learning outcomes

Programme has set the expected learning outcomes when students graduate from Bachelor of Technology Program in Medical Educational Technology will be able to:

ELO 1 Demonstrate professional ethics and social responsibility in media production process.

ELO 2 Apply basic science knowledge in the process of professional media production to achieve high quality medical educational resources.

ELO 3 Produce educational media for health science and academic medicine using appropriate tools and technology.

ELO 4 Create original biological and medical illustrations for textbooks and other formats of media required for scientific and medical education.

ELO 5 Create original models required for scientific and medical education.

ELO 6 Evaluate complex medical situation in order to come up with media production solutions to be used in both clinical practice and medical education.

ELO 7 Use communication skills effectively through speaking, listening, and writing to present, share, and exchange information with others.

ELO 8 Apply effective skills to develop leadership and teamwork in working environment.

2.2 Learning and Assessment Strategies for Expected Learning Outcomes Evaluation

ELOs	Teaching & Learning Activities	Assessment
1. Demonstrate professional ethics and social responsibility in media production process.	**1st year – 4th year** Inform rules and regulations of programme, faculty, and university for students to follow **2nd year – 4th year** Lecture; copyright, referencing, patent, respect other people. Reinforce ethics and moral in learning, practicing, and special activities.	**1st year – 4th year** Students' behaviors under rules and regulations of programme, faculty, and university **2nd year – 4th year** - Assignment, art portfolio - Behavior in class and other activities
2. Apply basic science knowledge in the process of professional media production to achieve high quality medical educational resources.	**1st year – 3rd year** Direct Instructional Strategy (Emphasis on understanding domain, use lecture, Q&A, individual and group projects) Indirect Instructional Strategy (Self-study) **2nd year – 3rd year** Direct Instructional Strategy (Emphasis on application of knowledge to practice in laboratory and individual project)	**1st year – 3rd year** - Evaluate understanding by written examination and sharing opinion in class - Evaluate ability to apply knowledge into practice from document, report, and project
3. Produce educational media for health science and academic medicine using appropriate tools and technology.	**1st year – 4th year** Direct Instructional Strategy (Lecture, demonstrate media production methods and processes, individual and group projects) Indirect Instructional Strategy (Self-information searching for enhance own understanding and apply knowledge) Experiential Instructional Strategy (Field trip) **4th year** Independent Instructional Strategy (Cooperative learning; individual project, working experience, special activity – academic conference)	**1st year – 4th year** - Evaluate understanding from written and practice examinations, and presentation - Evaluate practical skills from assignment (document, report, and project)
4. Create original biological and medical illustrations for textbooks and other formats of media required for scientific and medical education.	**1st year – 3rd year** Direct Instructional Strategy (Lecture, demonstrate media production methods and processes, individual projects) Indirect Instructional Strategy (Self- directed learning; information searching for enhance own understanding and apply knowledge) **4th year** Independent Instructional Strategy (Cooperative learning; individual project, working experience)	**1st year – 3rd year** Evaluate practical skills from practice examinations, assignment (document, report, and project) and presentation **4th year** Evaluate practical skills from project and working performance

ELOs	Teaching & Learning Activities	Assessment
5. Create original models required for scientific and medical education.	**2nd year – 3rd year** Direct Instructional Strategy (Lecture, demonstrate model making, individual and group projects) Indirect Instructional Strategy (Self-directed learning; information searching for enhance own understanding and apply knowledge) **4th year** Independent Instructional Strategy (Cooperative learning; individual project, working experience)	**2nd year – 3rd year** Evaluate practical skills from practice examinations, assignment (document, report, and project) and presentation **4th year** Evaluate practical skills from project and working performance
6. Evaluate complex medical situation in order to come up with media production solutions to be used in both clinical practice and medical education.	**2nd year – 4th year** Interactive Instructional Strategy (Inquiry-based learning; facilitate group discussion, small group, brainstorming) Direct Instructional Strategy (Emphasis on application of knowledge; individual and group projects)	**2nd year – 4th year** - Evaluate practical skills from assignment (report and project) - Observe in-class performance - Presentation and knowledge sharing **4th year** - Evaluate practical skills from project and working performance
7. Use communication skills effectively through speaking, listening, and writing to present, share, and exchange information with others.	**1st year – 4th year** Interactive Instructional Strategy (Facilitate group discussion, small group, brainstorming) Direct Instructional Strategy (Individual and group projects)	**1st year – 4th year** Evaluate communication skills from presentation, group activity, sharing information and idea
8. Apply effective skills to develop leadership and teamwork in working environment.	**1st year – 4th year** Interactive Instructional Strategy (Facilitate group discussion, small group, brainstorming) Extra activities Organize exhibition, student camp, and new student welcome activity.	**1st year – 4th year** - Observe behavior - Performance of group project (report and assignment)

Criteria for Student Evaluation

1. Grading System

According to MU regulation pertaining to educational management at associate degree and bachelor degree levels B.E. 2552, and related the announcement or regulations of the faculty. (details in appendix 7)

1.1 Symbols showing evaluation results

Symbols and their assigned scores : Grade results of each course may be shown in symbolic type as follows;

A	4.00
B+	3.50
B	3.00
C+	2.50
C	2.00
D+	1.50
D	1.00
F	0.00

Symbols without scores: grade results of each course may be shown in symbolic type as follow;

AU	Stydu which leads to no credit (Audit)
I	Awaiting for evaluation (Incomplete)
P	The study is incomplete (In Progress)
S	Satisfactory
T	Transfer of Credit
U	Unsatisfactory
W	Withdrawal
X	No report

1.2 Study time

The student has to be present in a theoretical, lecture, practice, internship, or field study no less than 80 percent of the total study time of that course in order to be allowed to take the exam.

2. Requirements for graduation

1. Have good behaviour suitable for the prestige of the degree.
2. Pass all courses and fulfil other criteria indicated in the curriculum.
3. Have CUM-GPA of at least 2.00
4. Presentation of portfolios which are produced according to the regulations of the Committee of the Program and received an “S” (satisfactory).
5. Individual project that received not less than 3.00
6. Pass the English proficiency test according to the university’s announcement.

Learning Support

Classroom

Lecture rooms that are appropriate for learning acitivies in this program are provided for students to learn and gain experience according to ELO. They will be able to efficiently learn from inside and outside the curriculum. There are 3 lecture rooms on the 14th and 15th floor of Sri Swarinthira Building to support subjects that use lecturing as the main teaching and learning activity. In details, these rooms are:

Lecture Room 1 : It has atmosphere suitable for learning. There is a 70-inch interactive whiteboard to be used during lecture sessions. Teachers will be able to present content through modern and up-to-date media that keeps up with technology advancement. Students will be able to see and understand the lessons better.

Lecture Room 2 : This is a lecture room that students can both listen to lectures while doing hand-on work such as elements of art designing, color theory, biological drawing, and medical drawing. Desks are arranged to suit the mentioned activities.

Multi-Purpose Room: A spacious room where desks can be arranged in many ways to support lecture-based learning and group activities.

Medical Science Laboratories: The faculty has prepared venue and facilities for each department responsible in the subject. The students are to study both theory sessions and practical sessions in medical science subject group at Anatomy Department, Biochemistry Department, Pathology Department, Microbiology Department, Parasitology Department, and Immunity Department.

Library

The program uses the library of Vejnithat Patana School to be the resource of books, textbooks, and other kinds of media related to the subjects taught in the program. There is also a sufficient number of appropriate books about design, photography, computer, video, model, and basic knowledge in medical science and public health for the students to research. The library is located on the 14th floor of Sriwarinthira Buidling. It is equipped with Thai and foreign language books, audio-visual media, and internet. It offers book check in – check out service, search machine, journals, digital books, project reports, project work pieces, and format of reports for the students in the program.

Medical textbooks are kept in Siriraj Medical Library in the Faculty of Medicine for the students to do in-depth medical research in subjects related to medical science such as Anatomy, Physiology, Parasitology, Immunity Science. It also offers information technology services such as digital library that contains e-Journal and e-Textbooks for large information seeking. Students can access the digital library online from anywhere.

Laboratories

Laboratories are provided to suit the needs of subjects that require practical sessions such as media producing, photography, model making, video producing, and design. There are photography laboratory, Film Negative Darkroom, and other practice rooms for model-making, arts, video making, sound recording, and other laboratories in different departments such as Anatomy Laboratory, Parasitology Laboratory, Surgery Room, Dermatopathological Photography Room, and Opthalmic Photography Room.

Computer equipment and IT system

The program has provided computer equipment and IT systems for learning according study plan of the students. Computers are available in Mac and Windows so it is convenient for students that have to use both operation systems in their computer class. Computers are installed in computer graphic classroom, video production computer classroom, and 3D Computer Laboratory. IT system is also provided to support learning activities, such as E-learning, SIET File Sharing System, and METC_School File Sharing System. Software are available in general and specific types. Mahidol University has purchased Licensed Software of Windows and Microsoft Office for students and staff of the university and the program. There are also specific softwares for the production of media that suits the needs of some particular subjects. Licensed softwares are legally available in sufficient number for the students in all academic levels.