



**VINUNIVERSITY**

# **CURRICULUM FRAMEWORK**

## **MEDICAL DOCTOR PROGRAM**

*PROGRAM CODE: [7720101]*

**Applicable for cohort 2022 - 2028 from Academic Year 2024 - 2025**

*(Decision: 412/2024/QĐ-VUNI, Dated: 09/08/2024 by the Provost of VinUniversity)*



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# 1. VINUNI GENERIC GRADUATE ATTRIBUTES

Generic graduate attributes are a set of skills, attributes, and values that all learners should achieve regardless of discipline or field of study; should be measurable and broad. The five Generic Graduate Attributes for VinUni, framed around the EXCEL Model, are listed as below:



- E: Empathy – sense other people’s emotions, understand others without judgement
- X: Exceptional Capability – exceptional capabilities and competencies that are proven determinants of future success.
- C: Creativity – Perceive the world in new ways, make connections, generate solutions
- E: Entrepreneurial Mindset – Overcome challenges, be decisive, accept responsibility, be impactful for society.
- L: Leadership Spirit – Motivate and influence people to act toward achieving a common goal.

## 2. PROGRAM OVERVIEW

### 2.1. Program Description

Name of the program degree	Medical Doctor Program
Program duration	6 years full-time
Total credits	<b>228 credits</b>

## 2.2. Program Mission and Vision

**Mission:** Our mission is to nurture professional and compassionate physicians dedicated to excellence, lifelong learning, innovation, scholarship and leadership to address society's diverse and evolving healthcare needs to the highest standard.

**Vision:** To be an excellent internationally recognized medical program through quality education, transformative research, and improving population health and well-being.

## 2.3. Professional Competency Standards

Competency standards that help the school measure the values, attributes, skills, and knowledge of our medical and nursing students have been developed and are spread out over 6 major domains. Our curriculum will ensure that students achieve competencies of the six domains as follows:

- **DOMAIN 1: COMPETENCE IN PROFESSIONAL PRACTICE**  
General practitioners shall have a professional practicing manner according to moral and legal standards and shall respect the variety of culture.
- **DOMAIN 2: COMPETENCE IN APPLICATION OF MEDICAL KNOWLEDGE**  
General practitioners shall have ability to apply the knowledge about basic science and basic medicine, pathology, and social and medical studies as the rationale for identifying, explaining and resolving the problems and transmit to individuals, groups of individuals and community about health conditions.
- **DOMAIN 3: COMPETENCE IN MEDICAL CARE**  
General practitioners shall have the ability to resolve a normal demand for medical care safely, promptly, economically, and effectively depending on scientific evidence and conform to the real conditions.
- **DOMAIN 4: COMPETENCE IN COMMUNICATION AND COOPERATION**  
General practitioners shall have the ability to communicate effectively with patients and their family, their colleagues, and the community.
- **DOMAIN 5: PRACTICE-BASED LEARNING AND IMPROVEMENT**  
Requires General Practitioners demonstrate their care of patients, locate, and appraise scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.
- **DOMAIN 6: SYSTEMS-BASED PRACTICE**  
Requires General practitioners to demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

## 2.4. Program Learning Outcome (PLO)

*At the end of the program, a student is able to:*

- **PLO1** – Demonstrate the ability to practice medicine according to professional ethical standards (1.2) and the regulations of laws (1.3) – (MOH1).
- **PLO2** – Display a dedication to ongoing practice-based learning and personal development (1.4) through reflective practice and self-evaluation (MOH1, ACGME-I PBL).
- **PLO3** – Collaborate effectively within interprofessional teams to provide comprehensive care to individual patients based on social, cultural, and contextual factors and to advocate for patient safety and quality improvement initiatives to improve healthcare delivery and to confront social determinants of health (MOH 1.1, ACGME-I SBP).
- **PLO4** – Apply fundamental biomedical and public health knowledge and be able to critically appraise scientific literature to answer biomedical questions and guide clinical practice in order to effectively screen, prevent, diagnose, and treat diseases (MOH2, EXCEL).
- **PLO5** – Demonstrate proficiency in clinical skills, encompassing history-taking, physical examination, clinical reasoning, interpretation of diagnostic tests, and performing common medical procedures and interventions safely and effectively in clinical care (MOH3, EXCEL).
- **PLO6** – Demonstrate empathy and effective communication with colleagues, interprofessional team members, and patients and their families, fostering an environment of mutual respect and collaboration in healthcare delivery (MOH4, EXCEL).
- **PLO7** – Exhibit creativity in problem-solving, employing numeracy skills and data analysis techniques to apply principles of evidence-based medicine in the innovation and improvement of patient care and health care systems (EXCEL).
- **PLO8** – Apply an entrepreneurial spirit and mindset in medical care, proactively identifying opportunities for optimization, innovation, and improvement within healthcare systems (EXCEL).
- **PLO9** – Demonstrate effective leadership in medical practice to inspire and motivate others and drive positive change (EXCEL).

## 2.5. Program Educational Objectives

*The Medical Doctor Program is aimed to produce graduates who are able to:*

1. Practice medicine with compliance to the national ethical standards and legal requirements, demonstrating proficiency in clinical skills and knowledge to provide safe, effective, and compassionate patient care.
2. Engage in continuous professional development and reflective practice, collaborating effectively within interprofessional teams to improve patient outcomes and healthcare systems.
3. Exhibit leadership and an entrepreneurial mindset, utilizing evidence-based practices and state-of-the-art technology to drive innovation and improvements in healthcare delivery both locally and globally.

### 3. CURRICULUM STRUCTURE

#### 3.1. Curriculum Composition

No	Curriculum Composition	Total	Credit		Credit Distribution (%/Total Credits)
			T	P	
<b>1</b>	<b>General Education and Basic Sciences</b>	<b>46.5</b>	<b>40.5</b>	<b>6</b>	<b>20%</b>
1.1	General Education	23	23	0	10%
1.2	Basic Sciences	18.5	12.5	6	8%
1.3	Co-curricular learning <sup>#</sup>	5	5	0	2%
<b>2</b>	<b>Professional Education</b>	<b>181.5</b>	<b>69</b>	<b>112.5</b>	<b>80%</b>
2.1	Pre-clinical courses	76	39	37	33%
2.2	Clinical courses	91.5	27	64.5	40%
2.3	Elective Courses	11	3	8	5%
2.4	Scholarly Project	3	0	3	1%
<b>Total</b>		<b>228</b>	<b>109.5</b>	<b>118.5</b>	<b>100%</b>

*#: Co-curricular courses comprise of both credited and non-credited courses*

### 3.2. Courses and Credit Distribution by Courses

GENERAL EDUCATION & BASIC SCIENCES					
No	Course code	Courses / Educational Units	Total	Credit	
				T	P
<b>General Education</b>					
1	HASS1010	Marxism-Leninism Philosophy (Philosophy Science and Society)	3	3	0
2	HASS1020	Marxism-Leninism Political Economy (Global Political Economy)	2	2	0
3	HASS1030	Scientific Socialism (Politics and Social Change)	2	2	0
4	HASS1050	History of the Communist party (Vietnam History and Culture I)	2	2	0
5	HASS1041	Ho Chi Minh Ideology (Vietnam: History and Culture II)	2	2	0
6	ENTR1021	Agile Innovation and Entrepreneurship	3	3	0
7	ENGL1011	Fundamentals of Academic Writing	3	3	0
8	ARTS1020A/B	Arts (Medical Humanities)	2	2	0
9	HASS1070	Cross Cultural Navigation	2	2	0
10	LAW1010	Introduction to Law	2	2	0
<b>Total</b>			<b>23</b>	<b>23</b>	<b>0</b>
<b>Basic Sciences</b>					
11	BIOL1012	Biology	4	2	2
12	PHYS1011	Biophysics	3.5	3	0.5
13	CHEM1021	Chemistry	2.5	2	0.5
14	BIOL1020	Bioinformatics	1	1	0
15	MEDI1030	Health Education	2	2	0
16	MEDI1010A/B	Introduction to Professionalism in Medicine	3.5	1.5	2
17	MEDI1020A/B	Fundamentals of Population & Health Research 1	2	1	1
<b>Total</b>			<b>18.5</b>	<b>12.5</b>	<b>6</b>
<b>Co-Curricular</b>					
18	LEAD1031	Leadership and Teambuilding Boot Camp	2	2	0
19	VCOR1011A/B	OASIS (Orientation - Academic Skills - Identity and Service)	3	3	0
20	VCOR1021	Healthy Lifestyle 1		non-credit	
21	VCOR1022	Healthy Lifestyle 2			
22	VCOR1030	National Defense Education (for Vietnamese citizen only)			
<b>Total</b>			<b>5</b>	<b>5</b>	<b>0</b>
<b>PROFESSIONAL EDUCATION</b>					
No	Course code	Courses / Educational Units	Total	Credit	
				T	P
<b>Pre-clinical Courses</b>					
1	MEDI1050	Human Body Structure and Functions 1	7	4	3
2	MEDI1060	Human Body Structure and Functions 2	7	3	4
3	MEDI1070	Biochemistry	4.5	3	1.5
4	MEDI1080	Genetics	3	2	1
5	MEDI2010	Immunology	3	2	1
6	MEDI2020	Microbiology/Parasitology	4	3	1

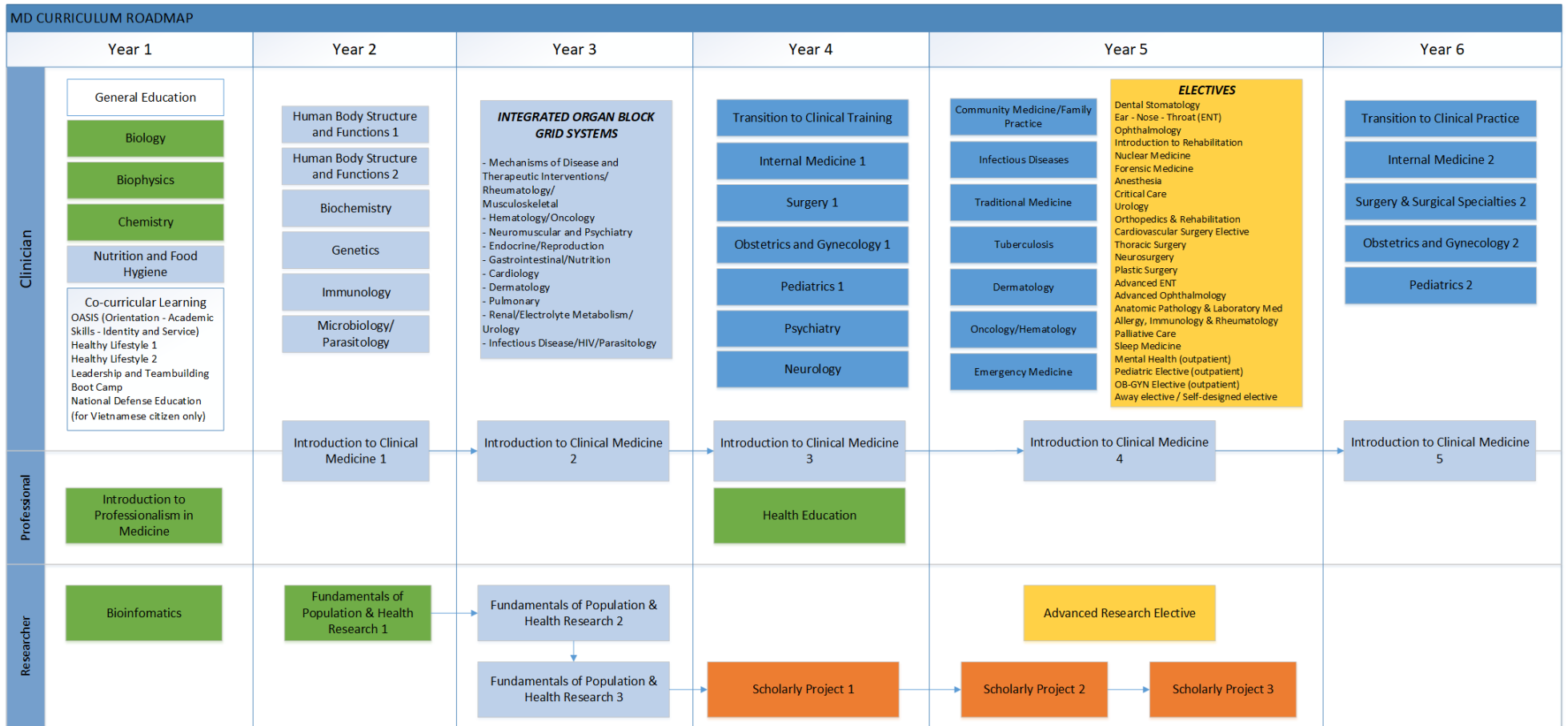
7	MEDI2030	Mechanisms of Disease and Therapeutic Interventions/ Rheumatology/ Musculoskeletal	3	2	1
8	MEDI2040	Hematology/Oncology	3	2	1
9	MEDI2050	Neuromuscular/ Psychiatry	4	2	2
10	MEDI2060	Endocrine/ Reproduction	3	2	1
11	MEDI2070	Gastrointestinal/ Nutrition	3	2	1
12	MEDI2080	Cardiology	3	2	1
13	MEDI2090	Dermatology	2	1	1
14	MEDI2100	Pulmonary	4	2	2
15	MEDI3020	Renal/ Electrolyte Metabolism/ Urology	3	2	1
16	MEDI3030	Infectious Disease/ HIV/ Parasitology	4	2	2
17	MEDI3050	Nutrition and Food Hygiene	1.5	1	0.5
18	MEDI3071	Fundamental of Population & Health Research 2	2	1	1
19	MEDI3080	Fundamental of Population & Health Research 3	2	1	1
20	MEDI2110A/B	Introduction to Clinical Medicine 1	2	0	2
21	MEDI3010A/B	Introduction to Clinical Medicine 2	2	0	2
22	MEDI4011A/B	Introduction to Clinical Medicine 3	2	0	2
23	MEDI5011A/B	Introduction to Clinical Medicine 4	2	0	2
24	MEDI6011A/B	Introduction to Clinical Medicine 5	2	0	2
<b>Total</b>			<b>76</b>	<b>39</b>	<b>37</b>
<b>Clinical Courses</b>					
25	MEDI4000	Transition to Clinical Training	4	2	2
26	MEDI3090	Internal Medicine 1	8	2	6
27	MEDI4010	Internal Medicine 2	8	2	6
28	MEDI4020	Surgery 1	8	2	6
29	MEDI4030	Surgery and Surgical Specialties 2	8	2	6
30	MEDI4040	Obstetrics and Gynecology 1	4	1	3
31	MEDI4050	Obstetrics and Gynecology 2	8	2	6
32	MEDI4060	Pediatrics 1	4	1	3
33	MEDI4070	Pediatrics 2	8	2	6
34	MEDI4080	Infectious Disease	4	1	3
35	MEDI4090	Traditional Medicine	2	1	1
36	MEDI5010	Tuberculosis	2	1	1
37	MEDI5050	Dermatology	2	1	1
38	MEDI5070	Neurology	4	1	3
39	MEDI5080	Psychiatry	4	1	3
40	MEDI5090	Oncology/ Hematology	4	1	3
41	MEDI6010	Community Medicine/ Family Practice	6	2	4
42	MEDI6020	Emergency Medicine	2	1	1
43	MEDI6032	Transition to Clinical Practice	1.5	1	0.5
<b>Total</b>			<b>91.5</b>	<b>27</b>	<b>64.5</b>
<b>Elective Courses (students select min 11 credits) *</b>					
44	MEDI5020	Dental Stomatology Elective	2	1	1
45	MEDI5030	Ear - Nose - Throat (ENT) Elective	2	1	1
46	MEDI5040	Ophthalmology Elective	2	1	1



47	MEDI5060	Introduction to Rehabilitation Elective	2	1	1
48	MEDI6070	Forensic Medicine Elective	2	1	1
49	MEDI6080	Radiology/ Nuclear Medicine Elective	2	1	1
50		Anesthesia Elective	2	1	1
51		Critical Care Elective	2	1	1
52		Urology Elective	2	1	1
53		Orthopedics & Rehabilitation Elective	4	1	3
54		Cardiovascular Surgery Elective	4	1	3
55		Thoracic Surgery Elective	4	1	3
56		Neurosurgery Elective	2	1	1
57		Plastic Surgery Elective	2	1	1
58		Advanced ENT Elective	4	1	3
59		Advanced Ophthalmology Elective	4	1	3
60		Anatomic Pathology & Laboratory Medicine Elective	4	1	3
61		Allergy, Immunology & Rheumatology Elective	4	1	3
62		Palliative Care Elective	2	1	1
63		Sleep Medicine Elective	2	1	1
64		Mental Health Elective (outpatient)	4	1	3
65		Pediatrics Elective (outpatient)	4	1	3
66		OB-GYN Elective (outpatient)	4	1	3
67		Advanced Research Elective	2-4	0	2-4
68		Away Elective/Self-designed Elective	2	1	1
<b>Total</b>			<b>11</b>	<b>3</b>	<b>8</b>
<b>Scholarly Project</b>					
69	MEDI6091	Scholarly Project 1	1	0	1
70	MEDI7010	Scholarly Project 2	1	0	1
71	MEDI7020	Scholarly Project 3	1	0	1
<b>Total</b>			<b>3</b>	<b>0</b>	<b>3</b>
<b>GRAND TOTAL</b>			<b>228</b>	<b>109.5</b>	<b>118.5</b>

*\*Students can select elective courses based on the offerings for the semester or academic year, respectively.*

### 3.3. MD Curriculum Roadmap



\*Note: Green box: Basic Sciences, Light Blue box: Pre-clinical Courses, Dark Blue box: Clinical Courses, Yellow box: Elective Courses, Orange box: Scholarly Project.

## **4. COURSE DESCRIPTIONS**

### **4.1. General Education**

#### **Marxism-Leninism Philosophy (Philosophy Science and Society)**

*3 credits*

Philosophy Science and Society is one of four courses in the General Education Program forming the ideology/national education component required for higher education curriculum as directed by the Ministry of Education & Training, Socialist Republic of Vietnam. These four courses are written to achieve the primary objective of helping students understand core values of both country and university through objective and critical academic lenses in a global context. As these courses will be taught in English to students for whom English is mainly a second language at VinUniversity, each course is designed to be delivered in the spirit of content-based language learning approach to help students both develop English language competency (focusing on speaking, listening and reading) and basic understanding of the content. Philosophy, Science & Society (PSS) provides students with a broad survey of key ideas in Philosophy, its relevance to society and the way we think we understand the world, or to put it broadly, “science”. We begin the course with an overview of the role of Philosophy and Metaphysics as we embark on this journey of critically re-examining the way we look at our world. In the second part of the course, we take a deep dive into questions of Epistemology, based on which students can orient and develop their creative thinking, philosophy of humanity and action. We follow up with an exploration of trends that came into being with the “social turn” of epistemology found in the critical works of Thomas Kuhn and later in the burgeoning body of works clustered as Sociology of Science. Following this radical re-thinking, we return to the fundamental questions about humanity posed in Social Philosophy and Ethics, to round up our critical inquiry of the complex relationship among philosophy, science and society.

#### **Marxism-Leninism Political Economy (Global Political Economy)**

*2 credits*

Global Political Economy: Vietnam-Region-The World is one of four courses in the General Education Program forming the ideology/national education component required for higher education curriculum as directed by the Ministry of Education & Training, Socialist Republic of Vietnam. These four courses are written to achieve the primary objective of helping students understand core values of both country and university through objective and critical academic lenses in a global context. This course is designed to help students develop a critical lens to understand social reality and social issues, including pressing questions, such as: What is Vietnam’s place in the world? What are the opportunities and challenges for Vietnam in the current configuration of the global political economy? To do so, we begin with a brief introduction to the study of political economy, informed by different persuasions in Marx-Leninism, political science, economic, sociology, anthropology and history. Students will gain a nuanced understanding of this interdisciplinary field through hands-on workshops and exercises on the principles

of scientific and logical arguments. The second part of this course will focus on specific issues related to globalization and international integration. In particular, we focus on the role of development, modernization, and regional development in Vietnam's prospects in the world. Our case studies pay special attention to the immediate regions surrounding Vietnam, namely ASEAN, East Asia (in particular, China) and South Asia. In the third and final part of this course, we examine the expressions of global inequality and consider how individuals and communities within Vietnam can move forward in an ever-globalizing world.

### **Scientific Socialism (Politics and Social Change)**

#### *2 credits*

Assuming a basic, strong, and even pivotal relationship between society and politics, the course Politics and Social Change will guide participants to a deep understanding of that relationship in Vietnam and the wider Asian region in the 20th and 21st centuries. The course explores key concepts of politics and social change, and in explication of those concepts, examine the dynamics of politics and social change in concrete terms.

What can be learned? – Students at the end of course will become familiar with the concepts of politics and social change of Vietnam. Students will also understand and compare Vietnam with national development efforts elsewhere in Asia. Finally, they will become familiar with major political and international relations developments from the 20th century. The medium of instruction helps students to both develop English language competency (focusing on speaking, and articulation, reading) and discourse skills through continuous practice with classmates and instructor.

Broad outlines – The course begins with a basic appreciation of the concepts of politics and social change, moving into Marxism-Leninism and its application to understanding politics & social change, and extending into how Ho Chi Minh Thought applies Marxism-Leninism and also stands apart as a set of national and contextual ideas and practices. The processes of politics and social change of other countries in the Asia-Pacific are then explored for comparison and contrast.

Medium of learning – The guiding principle for learning at the Vin Uni is active learning. This approach engages students to be active in the learning process with methods that are more than, not without, the traditional base of lectures and tutorials. The instructor or teacher plays the role of facilitator and provides the environment where students responsibly and actively acquire as much as possible, rather than are passively given, the learning points that the course desires.

Participants in this course will learn and share through a mix of lectures, tutorials, non-judgmental journal writing, presentations, and learning to collaborate with others through group projects. The learning environment should be safe, frank, friendly, collaborative, and enlightening.

The weekly lists of readings are divided into two types. Basic readings are recommended, and students should at least complete one for each week. Students who wish to do more can pick up the other basic and optional/additional readings.

## **History of the Communist Party (Vietnam: History and Culture I)**

*2 credits*

The great American humorist and writer Mark Twain once said, “History doesn’t repeat itself, but it often rhymes.” This course takes as its point of departure the possibility of using those rhymes of the past to better help us navigate our present and future. What lessons can we draw? As future business people, health care professionals, engineers, and computer scientists, these lessons have far more relevance than you may imagine.

Vietnam History and Culture (I) examines Vietnamese history and cultural production from its early origins to 1858 and the French Colonial project. The curriculum is divided into five units. We begin the curriculum by considering the study of both history and culture from theoretical perspectives and consider what these mean in the Vietnamese context. Just what are “History” and “culture”? What does it mean to be Vietnamese? In the second unit, we consider the ancient construction of Vietnamese history and cultural production. The third portion of the course examines the Lý and Trần dynasties as well as the Ming Occupation. Fourth, we explore the movement of Vietnamese people southward and the Tây Sơn Rebellion. And finally, fifth, we assess the unification of Vietnam under the Nguyễn and what is to come.

Too often Vietnamese are portrayed in history as vessels upon which events happen to them. This course treats the Vietnamese as agents of their history, grappling with big questions and great problems. We also explore the Vietnamese people’s historical willingness to learn from and integrate foreign ideas and instruments to further develop the Vietnamese culture. To this end, we will wrestle with questions such as: What are the forces that have shaped Vietnamese identity? What drives the worldview(s) of Vietnamese? How has it been transformed over time?

## **Ho Chi Minh Ideology (Vietnam: History and Culture II)**

*2 credits*

Vietnam History and Culture since 1858 is continuation of the first period (from ancient time to 1858) and covers the period from 1858 until today.

The main objective of the course is to analyze the development of Vietnam and its people from 1858 when France attacked and colonized VN through two Indochina wars (1946-1965) and (1954-1975) until today as Vietnam reunified and reformed and integrated into international system.

Due to its strategic geopolitical position, Vietnam has long been a global crossroads. So, this course tries to show as much as possible the parallels, interactions between Vietnam history and events and that happened in the world’s stage.

The course also aims to reflect Vietnam history and culture through the central figure of Ho Chi Minh (1890-1969), the most famous Vietnamese during this period. His life and career reflected the development of the very period of Vietnam history. Students are encouraged to do research himself to have broader view, discover new historical details.

## **Agile Innovation and Entrepreneurship**

*3 credits*

The purpose of this course is to provide students with a basic understanding of the entrepreneurial and innovative mindset and provide students the opportunity to learn about and develop skills and behaviors correlated with impactful entrepreneurs and innovators. Skills to be developed – through lecturing and in-class discussions, plus coaching on assignments and in-class exercises – include observation of real-world facts, identifying status-quos or problems, identifying core causes leading to status-quos, and to discover original ways to remove causes or to solve problems; networking with people to identify technological contributions, optimizing creativity, seeking feedback, and prototyping or mockup design. The pedagogical outcomes of this course include (i) development of creativity & out-of-the-box thinking, (ii) critical thinking through observation and abstractions, (iii) entrepreneurial mindset, and (iv) teamwork on a social or environmental issue. As part of the course, all students will engage in a 2-day hackathon to present and discuss optimization of the team’s solution to a real-world social or environmental problem. The course is intended for a mix of students from various academic disciplines, such as medicine, nursing, engineering, business, real estate, and hospitality.

## **Fundamentals of Academic Writing**

*3 credits*

Fundamentals of Academic Writing is aimed at refining students’ formal academic writing skills through a practical and active approach. The course focuses on much more than simply writing, though, and students will strengthen their core academic literacies and formal communication skills to thrive in other VinUniversity courses and equip themselves with strategies for long-term success in academic and professional communication.

The course begins by focusing on academic writing at the essay level, helping students understand the aspects which make academic writing different from other styles of writing. Students will develop confidence in critically evaluating information and responding with sound argumentation and logical development of ideas. In this early stage of the course, students will strengthen core academic literacies including critical reading, summarizing, paraphrasing, and peer feedback. As the course progresses, the focus shifts towards incorporating secondary research into writing, developing students’ abilities to evaluate credible sources and synthesize information with their original ideas to have a voice in the broader academic community and develop authority in communicating ideas to a wider audience. Students will develop essential academic literacies such as searching skills, strategies for reading journal articles, synthesizing information, citing and referencing, reference management, and other secondary research techniques. Finally, students will summarize key information they have found in the form of an academic poster, which is a common medium for visually communicating information in academic contexts.

Fundamentals of Academic Writing places active learning at the core, and every lesson includes practical activities to help students apply these skills. This course follows a process writing approach, which includes drafting, peer and teacher feedback, reflection, and revision before producing the final piece of

writing. Working together in interdisciplinary groups, students will present, critique, and revise their work with their peers to build autonomy, write for an audience, and gain confidence as writers.

### **Arts (Medical Humanities)**

*2 credits*

The course focusses on using various forms of creative arts to understand empathy, suffering, disability, ailment, burnout in the practice of medicine. The goal is to provide medical students with a deeper understanding of the patient and physician's perspective through reflections, poetry and paintings. Medical humanities are a broad area of study and practice encompassing all nontechnical or 'human' aspects of medicine. It is a year-long course bringing the arts and science of Medicine together. As students commence their clinical internships, they need to understand the importance of humanities in the management of illness and the patient experience. This course will also cover the VinUni attributes, Empathy and Creativity.

### **Cross Cultural Navigation**

*2 credits*

This course aims to equip students an understanding of one aspect of the so-called "global experience" and/or inter-cultural sensitivity, so that students can become knowledgeable about the ways in which individual identities, values, and perceptions and biases are shaped by cultures across the continents through acquiring knowledge of theories practice related to the impact of culture in our daily ecologies in local and global contexts. In the end, students are able to identify and understand the inter-sectional of one's own and others' cultural identities in order to reflect on how various cultural concepts apply to your own life, communication and various areas of study.

### **Introduction to Law**

*2 credits*

Introduction to Law is an introduction to concepts, roles, and principles of law as well as major fields of law in society. It provides students with general knowledge of the law that will serve as a helpful foundation for understanding how the law interacts with other disciplines that they study and pursue in the future. The course covers various aspects of legal theory, including notion, nature, sources, the rule of law, major legal and government systems, the legal profession, and comparative legal analysis between different bodies of law, branches of international law as well as various mechanisms of dispute settlement, either at municipal courts or other international forums worldwide. All the topics combine legal understanding and practical issues in the Vietnamese context and a wide diversity of international legal backgrounds to help students gain familiarity with basic concepts of national law and be aware of international fundamental legal standards. Throughout the course, students develop critical analysis and problem solving, work-in-group and presentation skills, and research literacy in law through theoretical lectures, case law analysis, and individual and team assignments.

## **4.2. Basic Sciences**

### **Biology**

*4 credits*

Biology is a compulsory subject for the first-year medical students. It covers basic biological principles as well as introductory concepts of molecular biology and human physiology to prepare students for the career development in medicine.

### **Biophysics**

*3.5 credits*

Biophysics is compulsory course for the first-year medical students. This course provides fundamental knowledge about Physics and Biophysics which covers five main topics in Physics such as: Mechanics, Thermodynamics, Electromagnetics, Optics and Nuclear Physics. In both theory and practice/ laboratory portion, the course is designed so as the student can understand the involvement of physics in many areas of biology, and medicine in both basic understanding of process/ function as well as in experimental techniques.

### **Chemistry**

*2.5 credits*

Chemistry is a compulsory course for the first-year medical students. It combines basic chemistry: generalization of atoms, molecules and chemical bonds; inorganic substances and basic dynamic and equilibrium processes; important organic groups related to organisms and life; basic analytical techniques for clinical and biomedical applications.

### **Bioinformatics**

*1 credit*

Bioinformatics is an interdisciplinary course that combines knowledge of information sciences and medical sciences to optimize the use and application of medical data across the spectrum from individuals to populations. It provides basic knowledge of health information systems, data gathering, and management, applied to scientific research, medical analysis and statistics to support treatment plan establishment and evidence-based decision-making. Students will be introduced basic skills to apply medical software/systems on the activities related to healthcare management and operations.



## **Health Education**

*2 credits*

This course covers essential concepts and theoretical models regarding health education to promote healthy behaviors and services in various healthcare settings. By engaging in various course activities, learners will have opportunities to understand how healthcare providers develop health education plans and communicate effectively with patients on a range of health topics. Additionally, a service-based learning project, aligned with Ministry of Health requirements, provides students with experience in applying these concepts in practical situations.

## **Introduction to Professionalism in Medicine**

*3.5 credits*

This course in year one sets the foundations of professionalism. Students being the active learners, will identify the core components of what it means to be a professional as medical student and a doctor in later years. These components once identified will determine the content to be learned across the six years.

## **Fundamentals of Population & Health Research 1**

*(Introduction to Epidemiology and Public Health)*

*2 credits*

This course provides an introduction to the basic concepts and inferential methods of biostatistics and epidemiology. It is designed to enable the medical student to gain foundational knowledge within these fields and apply basic principles as relevant to medicine. This course will also cover topics in demography, research methods and ethics as well as critical reading, interpretation, and analysis of medical literature.

### **4.3. Co-Curricular**

#### **Leadership and Teambuilding Boot Camp**

*2 credits*

The intensive 4-week Boot Camp instills foundational leadership values and skills into incoming students, while bringing the class together and creating esprit de corps. Students will learn and apply basic leadership concepts and skills through hands-on learning. Students will have to work individually and in team-based settings to solve complex and dynamic problems taken from the military, government, and business sectors. This includes but is not limited to: conducting long distance land navigation, negotiating obstacle courses, analyzing leadership case studies, and more. From developing self-awareness and thinking critically to innovating ideas and displaying resilience, students will learn fundamentals of Self, Interpersonal, and Team.

Leadership were taught through theoretical lectures, case study analysis, individual and team practical exercises, and self-reflection.

#### **OASIS (Orientation – Academic Skills – Identity and Service)**

*3 credits*

First-Year Experience – OASIS is a mandatory, non-credit bearing course of the General Education Program. It is a foundational course aimed to equip you, a first-year student with a proper understanding of the general nature, value, and requirement of university education. It is designed to assist you to successfully navigate through your new experience of university learning. It also forms a solid basis of support from which you may further develop their personal and professional excellence in the university. OASIS – an acronym of Orientation, Advising, Skills, Identity & Diversify, Service Learning – is a mandatory, 3-credit bearing course of the General Education Program.

It is offered through the students' residential colleges/dormitories, in collaboration with the General Education Program Committee. FYE is a foundational course aimed to equip the first-year students with a proper understanding of the general nature, value, and requirement of university education. It is designed to assist students to successfully navigate through their new experience of university learning. It also forms a solid basis of support from which students may further develop their personal and professional excellence in the university. The Service-Learning component, while being integrated into OASIS could create a unique experiential learning component that integrates students' academic study with the meaningful community service: Students will go outside the classrooms and serve the community by applying their professional knowledge to different stakeholders.

## **Healthy Lifestyle 1, 2**

*Compulsory, Non-credit*

“Healthy Lifestyle” is a mandatory and non-credit bearing course of the General Education Program. Undergraduate students are required to enroll in this course to fulfill part of the graduation requirements and expected to complete it by the end of their first-year study. This course provides the essential knowledge, skills and practicum lessons (exercise/sport classes), whereby students are able to develop a suitable approach in attaining a physically, mentally, socially and spiritually healthy lifestyle.

Specifically, this course provides students with the knowledge to make better choices during their daily routines to build a healthy lifestyle. A healthy lifestyle includes external/internal physical wellbeing and also good mental health. Students receive mentorship that guides and shapes their perspective, showcasing the importance of having a well-balanced life. Fitness and exercise will be discussed as a process and science that allows students to have a greater understanding of what it takes to achieve their physical goals. Nutrition and diet will be taught to dispel the myths about how and what you should eat to achieve desired health results. Rounding out the course will be a session about mental health, as a healthy body is nothing without a healthy mind. Having clarity of thought and the ability to effectively process information is a key trademark of a healthy lifestyle. This course emphasizes practical application of the learned concepts in order to integrate subject matter into student daily routines. The majority of coursework will be held in different environments and venues in order to expose students to the many varieties of fitness tools and resources to maintain a healthy foundation.

## **National Defense Education (*for Vietnamese citizen only*)**

*Compulsory, Non-credit*

National Defense Education, under MOET framework, plays a crucial role in building national pride, perseverance, and physical endurance among learners to secure the country’s civil defense system. By challenging themselves with early morning rituals, followed by rigid mental and physical requirements as well as schedules, students develop their self-discipline, grit & durability. Various extracurricular activities are integrated to the curriculum to foster inclusivity, maturity & responsibility towards student families and their societies.

## **4.4. Pre-clinical Courses**

### **Human Body Structure and Functions 1**

*7 credits*

These are sequential courses that integrate gross and embryologic anatomy of the human body, principles of physiology with the structure and function of cells and tissues. Imaging anatomy in radiology is also included. The courses are organized into units based upon the body systems and emphasize the clinical anatomy essential to the practice of medicine, physiologic processes in the human body. The courses include lectures, laboratories, and case studies.

### **Human Body Structure and Functions 2**

*7 credits*

These are sequential courses that integrate gross and embryologic anatomy of the human body, principles of physiology with the structure and function of cells and tissues. Imaging anatomy in radiology is also included. The courses are organized into units based upon the body systems and emphasize the clinical anatomy essential to the practice of medicine, physiologic processes in the human body. The courses include lectures, laboratories, and case studies.

### **Biochemistry**

*4.5 credits*

Biochemistry is designed to provide the medical student with an overview of the basic functional principles of biochemistry. This course covers the biochemical pathways, cellular signaling, and communications systems that regulate metabolic processes. It builds on these fundamental principles by providing an integrated approach that correlates with case presentations to explore how defects in the metabolic pathways alter the physiology of the cell and how disease ensues.

### **Genetics**

*3 credits*

Genetics is designed to introduce the medical student to the fundamental concepts and techniques of modern human genetics and genomics. This course provides a basic introduction to the structure and function of genes and the general organization of the Human Genome. The course will also cover key concepts of gene regulation and epigenetics in normal cells. This is followed by content about chromosomes and chromosomal abnormalities as they relate to disease. The second half of the course is used to highlight the clinical significance and translation of key genetic concepts.

## **Immunology**

*3 credits*

Immunology is designed to teach the medical student about the cellular and molecular basis of immune-mediated host defenses to invading microbes. This course provides a basic introduction to the general organization and functional principles of host defense elements. It builds on these fundamental principles covered by providing an integrated approach that correlates with case presentations to highlight the clinical significance and translation of key immunological concepts.

## **Microbiology/ Parasitology**

*4 credits*

Microbiology/ Parasitology is designed to introduce the medical student to the fundamental principles of microbiology and parasitology. This course provides an overview of microbiology and covers basic bacteriology, virology, mycology and parasitology. Throughout the second semester, an integrated approach with case discussions highlights the role of host defences and correlates organisms with disease presentations.

## **Mechanisms of Disease and Therapeutic Interventions/ Rheumatology/ Musculoskeletal**

*3 credits*

The Mechanisms of Disease and Therapeutic Interventions/ Rheumatology/ Musculoskeletal block is a three-week course that provides an overview of essential concepts incorporated into each organ system block. This course has three major components: overview of cellular and tissue responses to injury; general pathology and pharmacological principles; and diagnostic, clinical, and therapeutic aspects of musculoskeletal and rheumatologic diseases/disorders.

## **Hematology/ Oncology**

*3 credits*

The Hematology/ Oncology block is a three-week course that focuses on various elements of the blood, bone marrow, and lymphatic system as well as general concepts in oncology. This course has two components: an overview of cancer biology and management, followed by coverage of the cellular elements of blood and the diseases/disorders affecting each of those elements.

## **Neuromuscular/ Psychiatry**

*4 credits*

The Neuromuscular/ Psychiatry block is a five-week course that focuses on the nervous system as well as mental health and behavioral health diseases/disorders. Following a review of the normal structure and function of the nervous system, this course provides an integrated approach that correlates basic

pathogenetic and pathophysiologic principles with the diagnostic, clinical, and therapeutic aspects of diseases/disorders affecting the neuromuscular system.

### **Endocrine/ Reproduction**

*3 credits*

The Endocrine/ Reproduction block is a four-week course that focuses on various hormones that affect metabolism, growth and development, sexual function, and reproduction as well as the reproductive system. Following a review of the normal structure and function of the endocrine and reproductive systems, this course provides an integrated approach that correlates basic pathogenetic and pathophysiologic principles with the diagnostic, clinical, and therapeutic aspects of diseases/disorders affecting the endocrine and reproductive systems.

### **Gastrointestinal/ Nutrition**

*3 credits*

The Gastrointestinal/ Nutrition block is a four-week course that focuses on the digestive system and the absorption of various nutrients. Following a review of the normal structure and function of the gastrointestinal system, this course provides an integrated approach that correlates basic pathogenetic and pathophysiologic principles with the diagnostic, clinical, and therapeutic aspects of diseases/disorders affecting the gastrointestinal system.

### **Cardiology**

*3 credits*

The Cardiology block is a five-week course that focuses on the heart and circulatory system. Following a review of the normal structure and function of the cardiovascular system, this course provides an integrated approach that correlates basic pathogenetic and pathophysiologic principles with the diagnostic, clinical, and therapeutic aspects of diseases/disorders affecting the cardiovascular system

### **Dermatology**

*2 credits*

The Dermatology block is a two-week course that focuses on the skin, hair, and nails. Following a review of the normal structure and function of the skin, this course provides an integrated approach that correlates basic pathogenetic and pathophysiologic principles with the diagnostic, clinical, and therapeutic aspects of diseases/disorders affecting the skin and its appendages.

## **Pulmonary**

*4 credits*

The Pulmonary block is an integrated course that focuses on the respiratory tract. Following a review of the normal structure and function of the respiratory system, this course provides an integrated approach that correlates basic pathogenetic and pathophysiologic principles with the diagnostic, clinical, and therapeutic aspects of diseases/disorders affecting the respiratory system.

## **Renal/ Electrolyte Metabolism/ Urology**

*3 credits*

The Renal/ Electrolyte Metabolism/ Urology block is a five-week course that focuses on the kidneys and genitourinary system. This course has two major components: a review of the normal structure and function of the kidney along with an overview of fluid, electrolyte, and acid-base physiology and diseases/disorders; and an integrated approach correlating basic pathogenetic and pathophysiologic principles with diagnostic, clinical, and therapeutic aspects of diseases/ disorders affecting the urinary tract.

## **Infectious Disease/ HIV/ Parasitology**

*4 credits*

The Infectious Diseases/ HIV/ Parasitology block is a four-week course that focuses on various types of infections. Following a review of the different classes of organisms causing disease/disorder, this course provides an integrated approach that correlates basic pathogenetic and pathophysiologic principles with the diagnostic, clinical, and therapeutic aspects of infectious and parasitic diseases.

## **Nutrition and Food Hygiene**

*1.5 credits*

Nutrition and Food Hygiene is a subject for second year medical students. It provides fundamental knowledge and practical skills to engage healthy nutrition planning and food hygiene management to promote nutrition and health of individuals and communities.

## **Fundamentals of Population & Health Research 2**

*(Health Economics, Health Systems, Policy and Law)*

*2 credits*

Health Economics - Health System - Health Policy and Law course includes concepts and applications of principles in health system operation. It introduces the organizational models and facilitators of healthcare systems, specifically the functions and responsibilities of institutions and networks in the Vietnamese health promotion and services delivery system.

This course also provides basic concepts of health economics and development, the use of economic evidence in health planning, priority setting, medical decision making, and sustaining the health financing system. This will also enable students to deepen understandings of policy development and legal infrastructures in the Vietnamese health sector, and its implications in maximizing the system efficiency and quality as well as population health outcomes.

### **Fundamentals of Population & Health Research 3**

*(Healthcare Quality Improvement and Safety)*

*2 credits*

This course is a unique course of VinUni which introduces key concepts and principles of health quality improvement and patient safety, methods for evaluating and monitoring quality and outcomes of health services and the applications of guidelines towards international goals in patient safety. This course will prepare students with understanding of hospital environment and regulations to provide high quality and effective medical services that helps them maximize clinical learning outcomes in senior years.

### **Introduction to Clinical Medicine 1, 2, 3, 4, 5**

*2 credits per course, total 10 credits*

These courses focus on enhancing communication abilities within diverse medical settings, fostering confidence in interactions with patients, caregivers, families, peers, and healthcare teams. It emphasizes refining patient history-taking skills, mastering physical examinations, and developing empathetic, culturally aware patient communication.



## **4.5. Clinical Courses**

### **Transition to Clinical Training**

*4 credits*

Transition to Clinical Training (TCT) is a 4-week course that bridges the gap between preclinical and clinical years in undergraduate medical education. It prepares students for clerkship rotations by providing essential skills, core knowledge, and understanding. The course includes Introduction to Clinical Medicine (ICM), focusing on clinical skills; Hospital Preparation (HP), covering the clinical practice environment; and Differential Diagnosis (DDX), emphasizing symptom-based diagnosis. TCT ensures students are equipped for clinical training and delivering quality patient care for the upcoming clerkship period.

### **Internal Medicine 1**

*8 credits*

Internal Medicine 1 is a clinical rotation that focuses on health and illness in adult patients. Rotation objectives include: observational and supervised direct care of internal medicine patients in hospital and outpatient settings, with emphasis on acquisition of information from history and physical examination, case presentation, integration and interpretation of clinical information, clinical reasoning and diagnostic and therapeutic options.

### **Internal Medicine 2**

*8 credits*

Internal Medicine 2 is an advanced clinical rotation that builds upon the internal medicine clinical experience during fourth-year. Rotation objectives include: clinical care of internal medicine patients in both inpatient and outpatient settings; provision of graduated levels of independence and responsibility compared to the fourth-year internal medicine rotation; development of skills in internal medicine procedures; and application of knowledge and skills learned from prior rotations, research and medical practice principles and interprofessional education training to promote competent practice in internal medicine.

### **Surgery 1**

*8 credits*

Surgery 1 is a clinical rotation that focuses on the use of procedural techniques to treat illness and improve health. Rotation objectives include: observational and supervised direct care of surgical patients in hospital and outpatient settings, with emphasis on diagnostic evaluation of potential surgical problems, preoperative evaluation, participation in surgical procedures and postoperative care.

## **Surgery and Surgical Specialties 2**

*8 credits*

Surgery and Surgical Specialties 2 is an advanced clinical rotation that builds upon the surgery clinical experiences during fourth-year. Rotation objectives include: clinical care of patients in both inpatient and outpatient settings, provision of graduated levels of independence and responsibility compared to the fourth-year surgery rotation; development of skills in basic surgical procedures; and application of knowledge and skills learned from prior rotations, research and medical practice principles, and interprofessional education training to promote competent practice in surgery and surgical specialties.

## **Obstetrics and Gynecology 1**

*4 credits*

Obstetrics and Gynecology 1 is a clinical rotation dealing with health and illness in women, focusing on the reproductive system. Rotation objectives include observational and supervised direct care of women throughout pregnancy, including labor and delivery; skill development in pelvic and breast examinations; and observational and supervised direct care of women with disorders of the breast and the female reproductive system.

## **Obstetrics and Gynecology 2**

*8 credits*

Obstetrics and Gynecology 2 is an advanced clinical rotation that builds upon the obstetrics and gynecology clinical experiences during fourth year. Rotation objectives include: clinical care of women in both inpatient and outpatient settings, provision of graduated levels of independence and responsibility compared to the fourth-year obstetrics and gynecology rotation; active participation in labor and delivery; development of skills in basic obstetrics and gynecology procedures; and application of knowledge and skills learned from prior rotations, research and medical practice principles, and interprofessional education training to promote competent practice.

## **Pediatrics 1**

*4 credits*

Pediatrics 1 is a clinical rotation that focuses on health and illness in infants, children, and adolescents. Rotation objectives include observational and supervised direct care of pediatric patients in hospital and outpatient settings, with emphasis on normal development, prevention and health maintenance, acquisition of information from history and physical examination, case presentation, integration and interpretation of clinical information and diagnostic and therapeutic decision-making.

## **Pediatrics 2**

*8 credits*

Pediatrics 2 is an advanced clinical rotation that builds upon the pediatrics clinical experience during fourth year. Rotation objectives include clinical care of children in both inpatient and outpatient settings; provision of graduated levels of independence and responsibility compared to the fourth-year pediatrics rotation; development of skills in pediatric procedures; and application of knowledge and skills learned from prior rotations, research and medical practice principles and interprofessional education training to promote competent practice in pediatrics.

## **Infectious Disease**

*4 credits*

The Infectious Disease clerkship is designed to build on the previous preclinical course work in Microbiology. The lectures and cases will focus on clinical aspects of ID. We will focus on clinical assessment of patient and how to interpret culture results. We will use case-based instruction to discuss antibacterial, antiviral and antifungal agents. A prerequisite of this course will be to complete the “Accessible Antibiotics” lecture series in Canvas as we will use this framework for the didactic sessions of this course.

## **Traditional Medicine**

*2 credits*

Traditional Medicine is one of the core clinical rotations in Year 5 designed to immerse students in the principles and application of traditional medicine. This course aims to introduce a basic understanding of applying Traditional Medicine treatment to human health, both in normal and abnormal status. Students learn fundamental diagnosis methods, treatment approaches, and the applications of herbal, nonpharmacological, pharmacological treatments. Practical exposure includes performing non-pharmacological treatments like acupuncture, moxibustion, massage, and cupping.

The curriculum emphasizes developing differential diagnosis skills based on knowledge of physiology, pathophysiology, clinical symptoms, history taking and physical examination under the scope of traditional medicine. The course also explores the role of traditional medicine in the Vietnam Health Care system through a variety of immersive activities including clinical exposures, didactic sessions, and field trips... Through direct patient care experiences and guided learning students are expected to explore further in the field of traditional medicine and combine Western Medicine and Traditional Medicine to enrich their future medical practice.

## **Tuberculosis**

*2 credits*

This course offers a comprehensive overview of key topics in Diagnosis, Treatment and Prevention of Tuberculosis. Participants will learn to conduct thorough histories and examinations, recognize signs of TB infection, understand the pathophysiology of TB, recognize different manifestations of pulmonary and non-pulmonary TB infection. The course included 2 main components: Didactics (theory) and Clinical (Practice).

## **Dermatology**

*2 credits*

The Dermatology core clerkship curriculum is designed to teach the clinical presentation, diagnosis, and management of dermatology conditions in the following categories: hair, nails, apocrine/eccrine glands, neoplasms, inflammatory conditions, autoimmune connective tissue disease, and cutaneous signs of systemic disease.

## **Neurology**

*4 credits*

Neurology is a clinical rotation that focuses on diagnosis and management of diseases of the nervous system. Rotation objectives include observational and supervised direct care of patients with disorders of the nervous system, and skill development in the neurologic examination and the sampling of cerebrospinal fluid by lumbar puncture.

## **Psychiatry**

*4 credits*

Psychiatry is a clinical rotation that focuses on mental and behavioral health. Rotation objectives include observational and supervised direct care of patients with behavioral and mental health disorders, with a focus on diagnostic evaluation and management, including pharmacologic management.

## **Oncology/ Hematology**

*4 credits*

Oncology/ Hematology is a clinical rotation that focuses on the diagnosis and management of patients affected by various malignancies. Rotation objectives include observational and supervised direct care of patients with suspected or known malignancy; diagnostic evaluation and staging of malignant disease; use of genetic markers as an aid to therapeutic planning; and management strategies using surgery, radiation therapy, chemotherapy, immunotherapy, and other targeted biological agents.

## **Community Medicine/ Family Practice**

*6 credits*

Community Medicine/Family Practice is a clinical rotation that focuses on community-based primary care. Rotation objectives include observational and supervised direct care of patients in a primary care, community-based setting, with emphasis on common ambulatory problems as well as health maintenance and preventive care.

## **Emergency Medicine**

*2 credits*

This curriculum is designed to provide learners with an overview of the clinical presentation, initial diagnostic evaluation and principles of initial therapeutic interventions in common life-threatening clinical emergencies seen in the ED and ICU in adult patients.

## **Transition to Clinical Practice**

*3.5 credits*

This is the final unit in the MD Program which will bring all three themes together (Clinical-Professionalism-Research) to prepare the students for their role as intern. The unit will be an integrated learning experience in the clinical setting supporting their transition from a medical student to intern and plan career pathways for future.

## **Scholarly Project 1, 2, 3**

*Total 4 credits for 3 courses*

The three courses “Scholarly Project 1, 2, and 3” provide an opportunity to work on a research project. A scholarly project may involve basic, clinical, or library research and leads to the development of a report that summarizes the project background, research questions, methodology, results, and discussion-conclusion.

## **ELECTIVES**

### **Dental Stomatology Elective**

*2 credits*

This course is intended to inform primary care providers of the importance of oral health to general health. Through a short series of online modules, this course emphasizes the interdependence of oral health in sustaining general health and equally important, the effect multiple medical conditions and medications have on the oral health of patients. In addition, this course teaches assessment of oral health conditions and best practices in referral and coordinated care with oral healthcare providers. Description of normal

oral tissues, as well as changes seen in dental caries, periodontal disease and oral and pharyngeal cancer, are highlighted to aid in differential diagnosis and referral for dental care. Integrating oral health in medical care serves to reduce and/or eliminate systemic inequities and increase access to dental care for those traditionally underserved in dentistry, including those with special health care needs.

### **Ear - Nose - Throat (ENT) Elective**

*2 credits*

This 2-week elective course provides an in-depth exploration of Otorhinolaryngology (ENT), offering fifth-year MD students a comprehensive understanding of the diagnosis, treatment, and management of ear, nose, throat, head and neck disorders. The course is designed to build on the foundational knowledge acquired in the earlier years of medical school and to develop advanced clinical skills pertinent to the ENT specialty.

### **Ophthalmology Elective**

*2 credits*

This course offers a comprehensive overview of key ophthalmic topics, including the anatomy of the eye, refractive errors, cataracts, and ocular emergencies. Participants will learn to conduct thorough ocular histories and examinations, recognize signs of systemic diseases, and understand the urgency of prompt referrals. By the end of the course, attendees will be adept at diagnosing and managing both common and critical eye conditions, enhancing their clinical practice and patient care.

### **Introduction to Rehabilitation Elective**

*2 credits*

The Rehabilitation clerkship in Year 5 focuses on providing comprehensive care for individuals with disabilities, emphasizing the improvement of independence and quality of life. Students will have the opportunity to practice managing conditions such as spinal cord injuries, traumatic brain injuries, strokes, and orthopedic issues. The course includes direct care and supervised observation, emphasizing various rehabilitation techniques and interdisciplinary collaboration.

The curriculum covers neurological and musculoskeletal rehabilitation, emphasizing clinical symptoms, diagnosis, and comprehensive management of rehabilitation cases. Students will develop skills in assessing functional limitations, planning rehabilitation, and understanding the psychological and social aspects of patient care. Ultimately, upon completing the clerkship, students will have the necessary knowledge to contribute compassionately and effectively to enhancing independence and quality of life for patients.

## **Forensic Medicine Elective**

*2 credits*

The goal of the Forensic Medicine elective is to provide students with the concept of the subject, basic knowledge of forensic medicine, and the close relationship between medicine and law. The student will be provided with certain aspects of the anesthesia specialty that every physician should know. We welcome students interested in learning more about the practice of forensic medicine to participate in the two-week Forensic Medicine elective during year 5.

In this elective, students will gain basic awareness to comply with the law while practicing medicine, and basic knowledge about the forensic examination process, then acquire the basic capacity to access specific forensic examination cases and explain common physiological changes and injuries on the body before and after death. The module is taught through interactive presentations, reading scientific documents, group discussions, and learning through specific real-life cases in forensic medicine.

## **Radiology/ Nuclear Medicine Elective**

*2 credits*

As an elective course designed for mid-clerkship students, this course aims to offer advanced opportunities to enhance their knowledge, skills, and passion within the field of radiology. By reinforcing the foundational principles established in earlier years, students are expected to deepen their understanding and explore advanced concepts in radiology. This course aims to facilitate the transition towards pursuing further opportunities in radiology practice and postgraduate training career pathways.

The students will be paired with a dedicated resident/faculty on their weekly rotations and will also participate in read outs with attending radiologists on the services. The students will be taught relevant radiologic anatomy, the appropriateness of ordering various studies in the diagnosis of disease and will also be exposed to what the performance of various studies entail. Students will be introduced to the basics of radiologic reporting and dictation.

Students, if desired, will have the option to tailor the rotations to specific interests within radiology outside the core areas (X-ray, CT, MRI) such as US, mammography, interventional radiology, nuclear medicine).

## **Anesthesia Elective**

*2 credits*

The goal of the two-week Anesthesia elective is to expose the student to certain aspects of the anesthesia specialty that every physician should know. The student will be provided with an intense one-on-one experience with people who are genuinely interested in teaching. We welcome students interested in learning more about the practice of anesthesiology to participate in the two-week Anesthesia elective during year 5 or through 1-2 weeks of perioperative medicine selective during year 6 Sub-internship in Surgery.

In this elective, students will gain knowledge and skills in preoperative evaluation, risk stratification for surgery and preparation of the surgical patient; basic respiratory physiology including airway assessment; basic cardiac physiology includes the effects of anesthetic agents on the cardiovascular system and standard physiologic monitors; the evaluation and management of postoperative pain; basic ventilator management.

### **Critical Care Elective**

*2 credits*

This 2-week elective course provides fifth-year MD students with a comprehensive understanding of Critical Care Medicine. The course is designed to develop the clinical skills and knowledge necessary to manage critically ill patients. Students will gain hands-on experience in the intensive care unit (ICU) and other critical care settings, focusing on the assessment, diagnosis, and treatment of life-threatening conditions.

### **Urology Elective**

*2 credits*

The Urology clerkship in Year 5 focuses on providing a comprehensive understanding of urological disorders, diagnostics, treatment modalities, and surgical techniques. Urology is a specialized field of medicine that focuses on the diagnosis and treatment of conditions affecting the urinary tract and male reproductive system. This course aims to equip future physicians with the knowledge and skills to diagnose and manage urological conditions in both male and female patients across different age groups. The course includes direct care and supervised observation, emphasizing various urological techniques and interdisciplinary collaboration.

The curriculum emphasizes clinical symptoms, diagnosis, and comprehensive management of urological cases. Students will develop skills in assessing signs and symptoms, planning a surgery, and understanding the petrophysical and personalization of patient care. Ultimately, upon completing the clerkship, students will have a solid foundation in urology, enabling them to diagnose and manage common urological conditions. They will understand the multidisciplinary approach to urological care and be prepared to collaborate with other healthcare professionals to provide comprehensive treatment plans for their patients.

### **Orthopedics & Rehabilitation Elective**

*4 credits*

This 4-week elective course provides fifth-year MD students with a comprehensive introduction to the field of Orthopedics. The course aims to enhance students' knowledge and clinical skills in diagnosing, managing, and treating musculoskeletal conditions. Through hands-on clinical experience, students will gain insights into both the surgical and non-surgical aspects (rehabilitation) of orthopedic care.



## **Cardiovascular Surgery Elective**

*4 credits*

This 4-week elective course offers fifth-year MD students an in-depth exploration of Cardiac surgery and Vascular surgery, focusing on the diagnosis, treatment, and management of cardiovascular diseases. The course aims to enhance students' clinical skills and knowledge, providing hands-on experience through clinical rotations and specialized cardiology and vascular procedures.

## **Thoracic Surgery Elective**

*4 credits*

Throughout this rotation, students receive comprehensive training in overseeing preoperative and postoperative care for thoracic surgical patients while actively participating in surgical procedures in the operating room. The majority of the patients under the care of the thoracic surgery service include patients with lung, mediastinal, and thyroid malignancies and infections, and many present both diagnostic and therapeutic challenges. They participate in regular conferences led by faculty members, honing in on crucial aspects of thoracic surgery. Furthermore, students may be given the chance to present a case related to thoracic surgery to faculty and resident staff, enhancing their learning experience and communication skills within the field.

## **Neurosurgery Elective**

*2 credits*

The Neurosurgery clerkship in Year 5 designed to provide students in the Doctor of Medicine (MD) program with a comprehensive understanding of the principles, theories, and practical skills required for the diagnosis, treatment, and management of neurosurgical conditions. It focuses on the surgical management of disorders affecting the central and peripheral nervous systems, including the brain, spinal cord, and peripheral nerves.

The course will be delivered through a combination of didactic lectures, interactive discussions, case-based learning, laboratory sessions, clinical rotations, and observation of neurosurgical procedures. Students will have the opportunity to engage in hands-on activities, simulation exercises, and research projects related to neurosurgery.

## **Plastic Surgery Elective**

*2 credits*

This 2-week elective course offers fifth-year MD students an overview of Plastic Surgery, covering both reconstructive and cosmetic procedures. The course is designed to enhance students' knowledge and clinical skills in the assessment, diagnosis, and management of conditions requiring plastic surgical intervention. Students will gain hands-on experience through clinical rotations and will develop an understanding of the principles and techniques used in plastic surgery.

### **Advanced ENT Elective**

*4 credits*

This 4-week elective course is designed for students intending to pursue a career in Otolaryngology or for those who have a particular interest in further developing the clinical skills required to diagnose and manage Ear, Nose and Throat conditions. This extended elective offers additional exposure to otology, rhinology, laryngology as well as head and neck malignancies. Participating students are expected to be actively involved in both outpatient and inpatient management and will have additional opportunities for operative and procedural exposure

### **Advanced Ophthalmology Elective**

*4 credits*

This 4-week elective course is designed for students intending to pursue a career in Ophthalmology or for those who have a particular interest in further developing the clinical skills required to diagnose and manage Eye conditions. This extended elective offers additional exposure to subspecialty experience including cornea and external eye disease, glaucoma, retinal disease... Participating students are expected to be actively involved in both outpatient and inpatient management and will have additional opportunities for operative and procedural exposure

### **Anatomic Pathology & Laboratory Medicine Elective**

*4 credits*

This elective course, designed for mid-clerkship students, aims to provide advanced opportunities for deepening knowledge, refining skills, and nurturing passion within the field of pathology. By reinforcing foundational principles established in earlier years, students are expected to delve into advanced concepts in pathology, fostering a deeper understanding of the discipline. The course is structured to facilitate the transition towards pursuing further opportunities in pathology practice and postgraduate training career pathways.

### **Allergy, Immunology & Rheumatology Elective**

*2 credits*

Allergy, Immunology and Rheumatology offers an excellent clinical elective for students which focuses on the history and physical exam, diagnostic laboratory studies, and diagnosis of the more common diseases in Allergy, Immunology and Rheumatology for adult and children. Teaching venues include the ambulatory clinic working one-on-one with a faculty member, musculoskeletal ultrasound, division conferences to complement the patient care experience, and a self-study course using Osmosis.

This course will provide students with in-depth learning, critical thinking, skill-gaining and potential involving of those game-change immunotherapeutic or research. These aspects are important additions to

the overall curriculum, providing comprehensive educational processes for clinical practice and career development.

Students will be assigned to an ambulatory office practice for up to 4 days per week. Students will also be encouraged to evaluate selected inpatients who are being followed by the inpatient service. Students will attend the Division conferences.

Students also can participate in research projects in the field of immunology if available.

### **Palliative Care Elective**

*2 credits*

This 2-week elective course offers fifth-year MD students an overview of Palliative Care Medicine. The course focuses on the principles and practice of providing care for patients with life-limiting illnesses. Students will learn how to manage complex symptoms such as pain, provide psychosocial support, and address ethical issues in end-of-life care.

### **Sleep Medicine Elective**

*2 credits*

Sleep Medicine is one of the clinical elective rotations in Year 5 designed to immerse students in the principles and practices of sleep medicine. This course aims to introduce a basic understanding of applying Sleep Medicine to human health, both in normal and abnormal status. Students learn fundamental diagnosis methods, treatment approaches, and the applications of continuous positive airway pressure (CPAP), nonpharmacological and pharmacological treatments of sleep disorders.

The curriculum emphasizes developing differential diagnosis skills based on knowledge of physiology, pathophysiology, clinical symptoms, history taking and physical examination under the scope of sleep medicine.

### **Mental Health Elective (outpatient)**

*4 credits*

This 4-week elective course offers fifth-year MD students an in-depth exploration of Mental Health, focusing on the diagnosis, treatment, and management of psychiatric disorders in outpatient setting for adult, adolescent and children. The course is designed to enhance students' clinical skills and knowledge in mental health care, providing hands-on experience through clinical rotations, case studies, and interdisciplinary collaboration.

### **Pediatrics Elective (outpatient)**

*4 credits*

The 4-week Pediatric Outpatient Elective is a broad-based experience in the caring for pediatric patients in a clinic setting with a focus on preventative medicine, post-delivery infant outpatient care, and nutrition.

Students will have the opportunity to develop their clinical, procedural, and communication skills under the supervision of a pediatric preceptor. Core topics in outpatient pediatrics will be reviewed through patient-driven learning.

### **OB-GYN Elective (outpatient)**

*4 credits*

The goal of the four-week OBGYN outpatient elective course is to expose students to some of the important and common aspects of the obstetrics and gynecology specialty that every physician should know. Students will be provided with first-hand experiences with people who truly care about teaching. We welcome students interested in learning more about outpatient obstetrics and gynecology practice to take a 4-week obstetrics and gynecology elective during their fifth year.

In this elective, students will learn Equipped with knowledge and skills to examine obstetrics and gynecology, learn and understand the basic principles of gynecological ultrasound, obstetric ultrasound, basic knowledge of prenatal screening and diagnosis, Principles of diagnosis and treatment of infertility and training in assisted reproductive procedures.

### **Advanced Research Elective**

*2 to 4 credits*

A research elective involves a medical student working with a faculty member. Students who want to receive credit for research electives must be approved for the project at least two weeks prior to the start date of the course. Proposed research electives must be reviewed and approved by the faculty course instructor, and appropriate education leader (e.g. Program Director, Chair of academic year, or Vice Dean for Medical Education before being added the student's schedule. Students submit their research request via CANVAS (to be updated).

### **Away Elective/ Self-designed Elective**

*2 credits*

This course offers fifth-year MD students the chance to design a personalized learning experience aligned with their individual interests and career aspirations. It enables students to delve deeply into a particular medical specialty or acquire unique clinical experiences beyond the standard curriculum. Students can pursue this elective at either a global or local institution outside of VINUNI and its affiliated hospitals.