



# **CURRICULUM FRAMEWORK**

## **MEDICAL DOCTOR PROGRAM**

***PROGRAM CODE: [7720101]***

**Applicable for cohort 2024 - 2030 from Academic Year 2024 - 2025**

*(Decision 494b/2024/QĐ-VUNI, Dated: September 16<sup>th</sup> 2024 by the Provost of VinUniversity)*

**This Curriculum Framework has been reviewed and validated by  
The University of Pennsylvania**



## Records of change

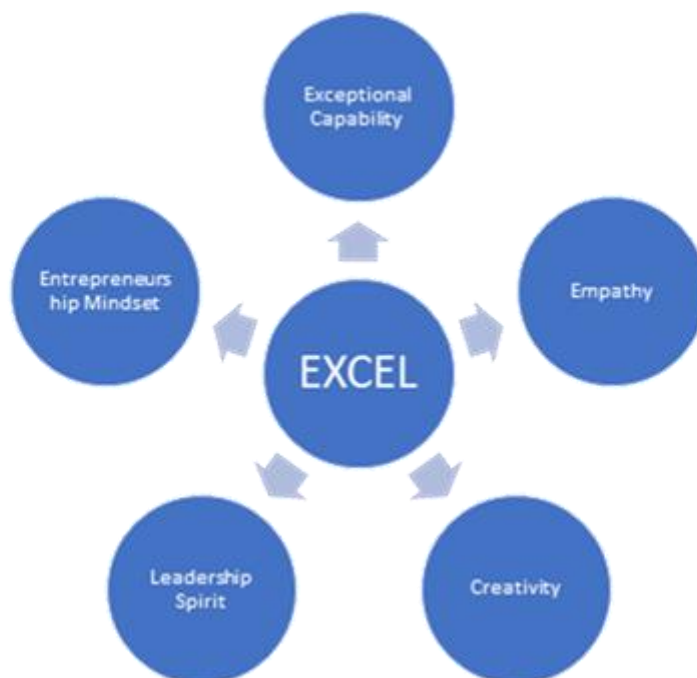
| Version | Published date | Effective Date | Approved by  | Description of changes     |
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| 1.0     | 16/9/2024      | 16/9/2024      | <i>Developed by:</i> Curriculum Review Taskforce<br><i>Reviewed by:</i> Medical Program Committee, College Vice Dean; VinUni Scientific and Educational Committee<br><i>Approved by:</i> Provost | First release for Cohort 5 |

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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>VinCore and Basic Sciences</b> | <b>46.5</b>  | <b>39.5</b>  | <b>7</b>     | <b>20.4%</b>                          |
| 1.1          | VinCore #                         | 24           | 24           | 0            | 10.4%                                 |
| 1.2          | Basic Sciences                    | 22.5         | 15.5         | 7            | 10%                                   |
| <b>2</b>     | <b>Professional Education</b>     | <b>181.5</b> | <b>69</b>    | <b>112.5</b> | <b>79.6%</b>                          |
| 2.1          | Pre-clinical courses              | 76           | 39           | 37           | 33.3%                                 |
| 2.2          | Clinical courses                  | 91.5         | 27           | 64.5         | 40.1%                                 |
| 2.3          | Elective Courses                  | 11           | 3            | 8            | 4.8%                                  |
| 2.4          | Scholarly Project                 | 3            | 0            | 3            | 1.3%                                  |
| <b>Total</b> |                                   | <b>228</b>   | <b>108.5</b> | <b>119.5</b> | <b>100%</b>                           |

#: VinCore courses comprise of both credited and non-credited courses

### 3.2. Courses and Credit Distribution by Courses

| VINCORE & BASIC SCIENCES      |                       |   |             |             |          |
|-------------------------------|-----------------------|---|-------------|-------------|----------|
| No                            | Course code           | Courses / Educational Units   | Total       | Credit      |          |
|                               |                       |   |             | T           | P        |
| <b>VinCore</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                             | HASS1041/42           | Ho Chi Minh Ideology (Vietnam: History and Culture II)  | 2           | 2           | 0        |
| 6                             | HASS1070              | Cross-Cultural Navigation   | 2           | 2           | 0        |
| 7                             | ENTR1022              | Agile Innovation and Entrepreneurship   | 2           | 2           | 0        |
| 8                             | ENGL1011/<br>ENGL1030 | ENGL1011: Fundamentals of Academic Writing or<br>ENGL1030: Academic and Professional Writing  | 3           | 3           | 0        |
| 9                             | IDEA1010/11/12/X      | Big Ideas: X<br><i>(The IDEA1010/11/12 series, titled 'Big Ideas (X)' will have its course code and title defined each semester, allowing the course content to align with the key themes and innovative design concepts)</i> | 2           | 2           | 0        |
| 10                            | LAW1010               | Introduction to Law   | 2           | 2           | 0        |
| 11                            | LEAD1031              | Leadership and Teambuilding Bootcamp  | 2           | 2           | 0        |
| 12                            | COSL1010              | Community Service Learning  |             |             |          |
| 13                            | VCOR1012A/B           | OASIS (Orientation, Advising, Skills, Identity & Diversity and Spirit of Pay-it-Forward)  |             |             |          |
| 14                            | VCOR1021/22           | Healthy Lifestyle   |             |             |          |
| 15                            | VCOR1030              | National Defense Education (for Vietnamese citizens only)   |             |             |          |
| <b>Total</b>                  |                       |   | <b>24</b>   | <b>24</b>   | <b>0</b> |
| <b>Basic Sciences</b>         |                       |   |             |             |          |
| 16                            | BIOL1012              | Biology   | 4           | 2           | 2        |
| 17                            | PHYS1011              | Biophysics  | 3.5         | 3           | 0.5      |
| 18                            | CHEM1021              | Chemistry   | 2.5         | 2           | 0.5      |
| 19                            | ARTS1020A/B           | Arts (Medical Humanities)   | 2           | 2           | 0        |
| 20                            | BIOL1020              | Bioinformatics  | 1           | 1           | 0        |
| 21                            | MEDI1032              | Health Education  | 3           | 2           | 1        |
| 22                            | MEDI1010A/B           | Introduction to Professionalism in Medicine   | 3.5         | 1.5         | 2        |
| 23                            | MEDI1021A/B           | Fundamentals of Population & Health Research 1  | 3           | 2           | 1        |
| <b>Total</b>                  |                       |   | <b>22.5</b> | <b>15.5</b> | <b>7</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        |

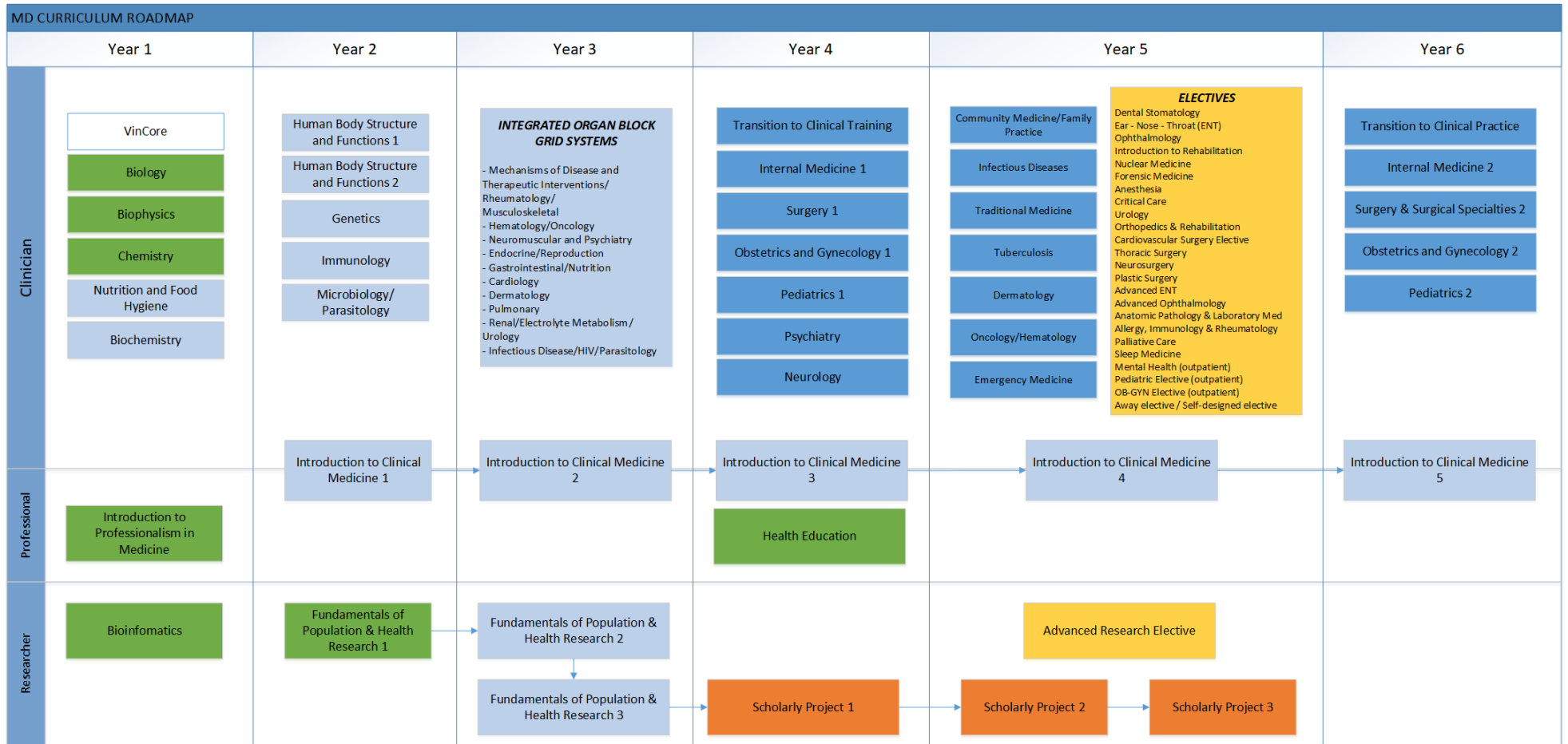


|                         |             |   |           |           |           |
|-------------------------|-------------|---|-----------|-----------|-----------|
| 2                       | MEDI1060    | Human Body Structure and Functions 2  | 7         | 3         | 4         |
| 3                       | 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/<br>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> |                       |   |             |              |              |
| <b>44</b>  | MEDI5020              | Dental Stomatology Elective                       | 2           | 1            | 1            |
| <b>45</b>  | MEDI5030              | Ear - Nose - Throat (ENT) Elective                | 2           | 1            | 1            |
| <b>46</b>  | MEDI5040              | Ophthalmology Elective                            | 2           | 1            | 1            |
| <b>47</b>  | MEDI5060              | Introduction to Rehabilitation Elective           | 2           | 1            | 1            |
| <b>48</b>  | MEDI6070              | Forensic Medicine Elective                        | 2           | 1            | 1            |
| <b>49</b>  | MEDI6080              | Radiology/ Nuclear Medicine Elective              | 2           | 1            | 1            |
| <b>50</b>  | MEDI6101              | Anesthesia Elective                               | 2           | 1            | 1            |
| <b>51</b>  | MEDI6021              | Critical Care Elective                            | 2           | 1            | 1            |
| <b>52</b>  | MEDI6110              | Urology Elective                                  | 2           | 1            | 1            |
| <b>53</b>  | MEDI6210              | Orthopedics & Rehabilitation Elective             | 4           | 1            | 3            |
| <b>54</b>  | MEDI6310              | Cardiovascular Surgery Elective                   | 4           | 1            | 3            |
| <b>55</b>  | MEDI6151              | Thoracic Surgery Elective                         | 4           | 1            | 3            |
| <b>56</b>  | MEDI6410              | Neurosurgery Elective                             | 2           | 1            | 1            |
| <b>57</b>  | MEDI6510              | Plastic Surgery Elective                          | 2           | 1            | 1            |
| <b>58</b>  | MEDI6610              | Advanced ENT Elective                             | 4           | 1            | 3            |
| <b>59</b>  | MEDI6710              | Advanced Ophthalmology Elective                   | 4           | 1            | 3            |
| <b>60</b>  | MEDI6810              | Anatomic Pathology & Laboratory Medicine Elective | 4           | 1            | 3            |
| <b>61</b>  | MEDI6910              | Allergy, Immunology & Rheumatology Elective       | 4           | 1            | 3            |
| <b>62</b>  | MEDI4390              | Palliative Care Elective                          | 2           | 1            | 1            |
| <b>63</b>  | MEDI6340              | Sleep Medicine Elective                           | 2           | 1            | 1            |
| <b>64</b>  | MEDI6011              | Mental Health Elective (outpatient)               | 4           | 1            | 3            |
| <b>65</b>  | MEDI4061              | Pediatrics Elective (outpatient)                  | 4           | 1            | 3            |
| <b>66</b>  | MEDI5110              | OB-GYN Elective (outpatient)                      | 4           | 1            | 3            |
| <b>67</b>  | MEDI7032/<br>MEDI7034 | Advanced Research Elective                        | 2/4         | 0            | 2/4          |
| <b>68</b>  | MEDI7000              | Away Elective/ Self-designed Elective             | 2           | 1            | 1            |
| <b>Total</b>   |                       |   | <b>11</b>   | <b>3</b>     | <b>8</b>     |
| <b>Scholarly Project</b>                                   |                       |   |             |              |              |
| <b>69</b>  | MEDI6091              | Scholarly Project 1                               | 1           | 0            | 1            |
| <b>70</b>  | MEDI7010              | Scholarly Project 2                               | 1           | 0            | 1            |
| <b>71</b>  | 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>108.5</b> | <b>119.5</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. VinCore**

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

*3 credits*

On successful completion of this course, students will be able to:

1. Understand the basic philosophical foundations of Marxism-Leninism, including dialectical materialism and historical materialism
2. Explain its significance in the development of Vietnam's state ideology and relevance to other areas of society including history, politics and economics
3. Know that Vietnamese philosophy features elements of syncretism and be able to describe those elements (e.g., Marxism-Leninism, Confucianism, Buddhism, Daoism, etc.)
4. Describe, evaluate and compare different answers to foundational philosophical questions such as “what exists?”, “what is knowledge?”, and “what is right and wrong?”
5. Understand and assess different approaches to the nature of science and scientific progress

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

*2 credits*

On successful completion of this course, students will be able to:

1. Demonstrate an understanding of the complexity of how the world is interconnected through the political economy.
2. Develop an informed understanding of conceptual terms and theoretical approaches used in understanding the global economy.
3. Understand the transformation of Vietnam in the context of the global political economy.
4. Cultivate a critical-minded awareness of major trends in the global political economy.
5. Acquire an informed understanding of the rise of China and India and the resulting impacts on Vietnam, ASEAN, and the world.

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

*2 credits*

On successful completion of this course, students will be able to:

1. Describe and explain the concepts of politics and social change in Vietnam and around the region, and acquire some lexicon of the subject.
2. Understand how politics and political systems are key to socio-economic developments, including but not limited to the Marxist-Leninist views.
3. Understand the ways politics affects economic management, and help determine national success
4. Compare Vietnam's national development with national efforts elsewhere in Asia.

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

*2 credits*

On successful completion of this course, students will be able to:

1. Know the major events, persons, and historical conditions that led to the creation and development of the Vietnamese Communist Party
2. Critically review historical artifacts, including textual documents, art, literature, archeology, and accounts of informants.
3. Grasp the historical factors and precedents that relate to contemporary issues and gain the ability to apply historical and cultural knowledge to understanding and analyzing contemporary problems
4. Present historical evidence-based arguments
5. Explore multiple perspectives about the past, especially the past as understood from the vantage of former historical actors.

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

*2 credits*

On successful completion of this course, students will be able to:

1. Know the major events, persons, and historical conditions the led to the creation and development of Ho Chi Minh Ideology and engage Ho Chi Minh Ideology as both a historical and living body of thought.
2. Consider the ongoing transformation of Ho Chi Minh thought and its significance in history and for Vietnam's future.
3. Critically review historical artifacts, including textual documents, art, literature, archeology, and accounts of informants, and grasp the historical factors and precedents that relate to contemporary issues
4. Gain the ability to apply historical and cultural knowledge to understanding and analyzing contemporary problems
5. Present historical evidence-based arguments and conduct probing discussions about challenging historical subjects
6. Explore multiple perspectives about the past, especially the past as understood from the vantage of former historical actors.

## **Cross-Cultural Navigation**

*2 credits*

On successful completion of this course, students will be able to:

1. Understand the ways in which individual identities, values, perceptions, and biases are shaped by cultures and different forms of life
2. Know the theories and practices related to the impact of culture in our daily ecologies in local and global contexts
3. Identify and understand the intersection of one's own and other's cultural identities

4. Apply knowledge of practice, theory, and personal reflection of different cultures to a particular issue that requires collaboration or cooperation between individuals or groups from different cultural backgrounds

## **Agile Innovation and Entrepreneurship**

*2 credits*

On successful completion of this course, students will be able to:

1. Explain how an entrepreneurial mindset supports and accelerates innovation and growth in the contexts of businesses, industries, and countries.
2. Evaluate the multifaceted nature of entrepreneurship in Vietnam and internationally, and how it impacts the economy, society, and environment. Have access to insights on VinGroup's governance principles (the 6 Hóa).
3. Recommend strategies to evaluate the entrepreneurial mindset, values, and behaviors, and to further develop the entrepreneurial mindset, both individually and organizationally.
4. Grow your own entrepreneurial mindset and innovation-related skills, including identifying and evaluating opportunities, taking calculated risks, solving problems creatively, communicating effectively, and influencing stakeholder groups.
5. Demonstrate the ability to work productively in teams to collaboratively explore opportunities, generate ideas, and find and communicate solutions to a predefined challenge during the course hackathon.

## **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 that 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.

### **Big Ideas: X**

*2 credits*

On successful completion of this course, students will be able to:

1. Describe and explain a "big idea", which may be a new solution to a problem, a disrupting technology, or an innovative method or way of doing things
2. Identify the implications of a big idea for everyday life or a professional setting
3. Develop a strategy for using a big idea to improve an existing approach or create a new application
4. Evaluate the application of a big idea, including an assessment of its positive impacts, negative impacts, and mitigating strategies for the theme of the year

### **Introduction to Law**

*2 credits*

On successful completion of this course, students will be able to:

1. Explain the history, contemporary nature, and purpose of the Vietnamese legal system, including its key institutions, doctrines, and principles.
2. Describe and evaluate key differences and similarities between legal system management in Vietnam and internationally.
3. Understand the mechanisms of legal duty, justification of punishment, and the roles of courts and juries.
4. Apply fundamental legal rules and principles in a wide range of selected areas of the law, demonstrating critical thinking and ethical considerations.
5. Develop a mindset of compliance and appreciate the importance of adhering to legal standards in professional and personal context

## **Leadership and Teambuilding Boot Camp**

*2 credits*

On successful completion of this course, students will be able to:

1. Define foundational concepts of leadership traits, leadership styles, values, and trends, and their applications to real-life situations, especially in a turbulent world.
2. Describe and evaluate the differences and similarities between management and leadership, and their application in an organizational setting.
3. Evaluate the multifaceted nature of leadership in Vietnam and internationally, and their impact on work environments, particularly in a VUCA context. Have access to insights on Vingroup's mission, vision, and core values.
4. Develop your own leadership mindset by setting a vision, developing self-awareness, understanding others' perspectives, understanding situational contexts, communicating effectively, and making informed decisions. setting a vision, accepting accountability, understanding self and others' limits, inspiring and motivating others, and creating the collaborative conditions for success
5. Apply basic leadership values and skills through action-based learning, and building self, interpersonal, and team leadership during the leadership bootcamp.

## **Community Service Learning**

*Compulsory, Non-credit*

On successful completion of this course, students will be able to:

1. Define and understand the essential components of service learning, including benefits, impact, and key attributes.
2. Critically reflect on social issues and UNESCO's sustainable development goals (SDGs) with reference to a planned service project
3. Plan and implement a service project in accordance with local laws and regulations
4. Reflect on the outcomes of that service project and how it could have been improved
5. Develop sensitivity and empathy to local community members



## **OASIS (Orientation, Advising, Skills, Identity & Diversity and Spirit of Pay-it-Forward)**

*Compulsory, Non-credit*

On successful completion of this course, students will be able to:

1. Cultivate self-leadership, enhancing self-confidence, self-esteem, self-determination, and self-control.
2. Self- acquire and apply college readiness skills, life-long learning, effectively adapting to academic, social, and personal challenges of university life
3. Self- develop essential career skills, preparing for personal and professional success.
4. Embrace community involvement by actively participating in community service, demonstrating a commitment to positive societal impact and a pay-it-forward spirit.
5. Regularly reflect on personal growth and practice self-leadership throughout your university life, from the initial enrollment CV to the Individual Development Plan (IDP) and the pre-graduation CV, ensuring ongoing development and readiness for life after graduation.

## **Healthy Lifestyle**

*Compulsory, Non-credit*

On successful completion of this course, students will be able to:

1. Understand the important principles of a healthy lifestyle, including balanced nutrition, regular physical activity, and mental well-being.
2. Understand your health, and develop your health strategies, including techniques for managing stress effectively and maintaining a balanced life.
3. Engage in self-discipline for nutrition, exercise, and rest, and actively participate in various physical and mental well-being clubs at the university.
4. Recognize the impact of lifestyle choices on long-term health and well-being and make informed decisions to enhance your quality of life.
5. Be motivated to promote well-being within communities through various means such as research, awareness campaigns, and participation in health clubs.

## **National Defence Education (for Vietnamese citizens only)**

*Compulsory, Non-credit*

On successful completion of this course, students will be able to:

1. Understand and articulate knowledge of the National Defense and Security policies of the Communist Party of Vietnam.
2. Understand basic concepts of national defense and security work.
3. Understand and practice the fundamental rules and disciplinary regulations in military organizations.
4. Practice the fundamental techniques and tactics of infantry combat

## **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 a 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)*

*3 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. 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 defenses 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.



## **4.4. 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.