



# **BUKU PANDUAN SISWAZAH**

**PROGRAM DOKTOR  
PAKAR PATOLOGI  
(PATOLOGI ANATOMIK)**

**FAKULTI PERUBATAN**  
UNIVERSITI KEBANGSAAN MALAYSIA



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FAKULTI PERUBATAN  
UNIVERSITI KEBANGSAAN MALAYSIA**

Edisi Pertama 2026

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## FAKULTI PERUBATAN VISI dan MISI

### FACULTY OF MEDICINE

#### **Visi (*Vision*)**

Untuk menjadi hab akademik perubatan yang terkehadapan dan berdaya saing berteraskan ilmu, inovasi dan pasukan profesional perubatan yang berdedikasi dalam membentuk masyarakat yang sihat dan bermaklumat

*To become the leading and competitive academic medical hub based on knowledge, innovation and dedicated teams on health professionals for the development of a healthy and informed society.*

#### **Misi (*Mission*)**

Untuk memberi pendidikan dalam profesional perubatan dan perkhidmatan bermutu tinggi berteraskan penyelidikan, dalil perubatan, inovasi dan kepekaan sosial.

*To provide quality education of health professionals and services of the highest standard based on research, evidence based medicine, innovation and social sensitivities.*

## Introduction

# DOCTOR OF PATHOLOGY (ANATOMIC PATHOLOGY) PROGRAMME

## General Objectives of the Programme

The Doctor of Pathology (Anatomic Pathology) programme aims to train trainees to become **competent and independent specialist pathologists** who can accurately diagnosis diseases using morphological assessment, ancillary techniques, and clinical correlation.

Trainees will develop the ability to:

- Apply advanced pathology knowledge in real clinical settings
- Perform diagnostic reporting safely and effectively
- Engage in research and continuous professional development
- Contribute actively to multidisciplinary team (MDT) discussions
- Utilise modern technologies such as digital and molecular pathology

This handbook outlines the structure, learning outcomes, training requirements, and assessment framework for the Doctor of Pathology (Anatomic Pathology) programme. The programme is competency-based and integrates diagnostic service, academic learning, and research training.

Throughout the programme, emphasis is placed on **professionalism, ethical practice, communication skills, and leadership**, ensuring trainees are well-prepared to function as key contributors to patient care and healthcare systems.

Ultimately, trainees will graduate as **well-rounded pathologists** capable of delivering high-quality diagnostic services and contributing to education, research, and innovation in pathology.

## 1. Programme Learning Outcomes (PLO)

At the end of the programme, the trainee will demonstrate :

1. ability to explain medical knowledge in patient diagnosis and treatment
2. ability to apply scientific knowledge, approaches, and critical thinking in making decisions regarding patient diagnosis and management.
3. good diagnostic and clinical skills based on standard operating procedures.
4. demonstrate the ability to interact and work effectively in a team.
5. the ability to communicate knowledge and provide advice effectively, both verbally and in writing, to peers and the community.
6. skills in using digital technology in the field of pathology.
7. ability to apply numerical skills in conducting research, diagnosis, and patient management.
8. leadership qualities and the ability to make decisions in all situations.
9. good personal management and commitment to lifelong learning in one's career.
10. entrepreneurial innovation qualities in the field of pathology.
11. high standards of medical ethics and professionalism.

## 2. Academic Calendar

Activity	Semester 1	Semester 2	Duration
<b>New Student Registration</b> Online registration through Join UKM (join.ukm.my)	2 June 2026	1 Dec 2026	1 Day
<b>Returning Student Reg.</b> Online registration through SMPWEB (www.ukm.my/smpweb)	2 – 14 June 2026	1 – 13 Dec 2026	2 Weeks
<b>Penalty for late registration</b>	15 June 2026	14 Dec 2026	1 Day
<b>Termination of trainees due to failure to register</b>	29 June 2026	28 Dec 2026	1 Day
<b>New Student Briefing</b>	4 June 2026	3 Dec 2026	1 Day
<b>Lectures / Learning</b>	2 June – 6 Sept 2026	1 Dec 2026 – 7 Mar 2027	14 Weeks
<b>Add/Drop Courses</b>	2 – 28 June 2026	1 – 27 Dec 2026	4 Weeks
<b>Teaching and supervision evaluations (SPPP)</b>	1–13 Sept 2026	1–14 Mar 2027	2 Weeks
<b>Course Withdrawal</b>	29 June – 9 Aug 2026	28 Dec 2026 – 7 Feb 2027	6 Weeks
<b>Revision Week</b>	7 – 13 Sept 2026	8 – 14 Mar 2027	1 Week
<b>Examination Period</b>	14 Sept – 8 Nov 2026	15 Mar – 9 May 2027	≥ 2 Months
<b>Grade Entry (Dept.)</b>	2 – 29 Nov 2026	3 – 30 May 2027	~4 Weeks
<b>End of Semester</b>	30 Nov 2026	31 May 2027	

**Note:** All dates are subject to change.

### 3. Directory of Teaching Staff

DIRECTORY OF TEACHING STAFF (ANATOMIC PATHOLOGY)			
NO	NAMES OF LECTURERS	PHONE NO.	E-MAIL ADDRESS
1.	Assoc Prof Dr Suria Hayati Md Pauzi	Ext 5372	su_hayati@hctm.ukm.edu.my
2	Prof Dr Tan Geok Chin	Ext 5362	tangc@hctm.ukm.edu.my
3.	Prof Dr Reena Rahayu Md Zin	Ext 5359	reenarahayu@hctm.ukm.edu.my
4.	Assoc Prof Dr Nordashima Abd Shukor	Ext 5363	nordashima@hctm.ukm.edu.my
5.	Assoc Prof Dr Wong Yin Ping	Ext 5364	ypwong@hctm.ukm.edu.my
6.	Dr Nurwahyuna Rosli	Ext 5366	nurwahyuna@ukm.edu.my
7.	Dr Azyani Yahaya	Ext 5363	azyani@hctm.ukm.edu.my
8.	Dr Badrul Iskandar bin Abdul Wahab	Ext 5827	badrul.iskandar@hctm.ukm.edu.my
9.	Dr Nasiha Abu	Ext 5355	nasihaabu@ukm.edu.my
10.	Dr Priyatharisini A/P Durganaudu	Ext 5355	priyatharisini@hctm.ukm.edu.my

<b>DIRECTORY OF TEACHING STAFF (HEMATOLOGY)</b>			
<b>NO</b>	<b>NAMES OF LECTURERS</b>	<b>PHONE NO.</b>	<b>E-MAIL ADDRESS</b>
1.	Profesor Dr. Raja Zahratul Azma Raja Sabudin	91459493 / 5780	zahratul@hctm.ukm.edu.my
2	Prof. Madya. Dr. Hafiza Alauddin	91459518 / 5339	drhafiza@hctm.ukm.edu.my
3.	Prof. Madya. Dr. Nurasyikin Yusof	9145 5373 / 9516	drsyikin@hctm.ukm.edu.my
4.	Prof. Madya. Dr. Suria Abdul Aziz	9145 9494 / 5842	suria.abdulaziz@hctm.ukm.edu.my
5.	Dr. Azlin Ithnin	9145 8386 / 9495	nazlin@hctm.ukm.edu.my
6.	Dr. Mohd Fikri Mustapa	01123057727	mohdfikri@hctm.ukm.edu.my
7.	Dr. Qhasmira Abu Hazir	9145 8500	qhasmira@hctm.ukm.edu.my
8.	Dr. Lailatul Hadziyah Mohd Pauzy	9145 4864	lailatulp@hctm.ukm.edu.my
9.	Dr Alia Suzana binti Asri	019-322 1243	aliasuzana@ukm.edu.my

<b>DIRECTORY OF TEACHING STAFF (CHEMICAL PATHOLOGY)</b>			
<b>NO</b>	<b>NAMES OF LECTURERS</b>	<b>PHONE NO.</b>	<b>E-MAIL ADDRESS</b>
1.	Dr. Dian Nasriana Nasuruddin	91459501 / 5450	drdian@hctm.ukm.edu.my
2	Dr Munirah Md Mansor	91455441 / 9507	munirah.md.mansor@hctm.ukm.edu.my
3.	Dr. Wan Muhammad Azfar B. Wan Shuaib	91459502 / 5376	dr.wmazfar@ukm.edu.my

4.	Dr. Izzatul 'Aliaa Badaruddin	9145 9515	izzatulaliaa@ukm.edu.my
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<b>DIRECTORY OF TEACHING STAFF (FORENSIC PATHOLOGY)</b>			
<b>NO</b>	<b>NAMES OF LECTURERS</b>	<b>PHONE NO.</b>	<b>E-MAIL ADDRESS</b>
1.	Profesor Dr. Faridah Mohd Nor	91455369 / 5445	faridah.nor@ukm.edu.my
2	Dr. Asyraff bin Md Najib	91457349	asyraff.najib@ukm.edu.my

<b>DIRECTORY OF TEACHING STAFF (MEDICAL MICROBIOLOGY)</b>			
<b>NO</b>	<b>NAMES OF LECTURERS</b>	<b>PHONE NO.</b>	<b>E-MAIL ADDRESS</b>
1.	Prof. Madya. Dr. Asrul Abdul Wahab	91459530	saw@hctm.ukm.edu.my
2	Dr. Zalina Ismail	91459536	zalina.ismail@hctm.ukm.edu.my
3.	Prof. Madya Dr. Tzar Mohd Nizam Khaithir	91459534	tzar@hctm.ukm.edu.my
4.	Prof. Madya Dr. Ramliza Ramli	91459532	ramliza@hctm.ukm.edu.my
5.	Prof. Madya Datin Dr. Noor Zetti Zainol Rashid	91459533	zetti@hctm.ukm.edu.my
6.	Prof. Madya Dr. Alfizah Hanafiah	91459539	alfizah@hctm.ukm.edu.my
7.	Prof. Madya Dr. Ding Chuan Hun	91459531	dingch@hctm.ukm.edu.my
8.	Datin Dr. Anita Sulong	91459581	dranita@hctm.ukm.edu.my
9.	Dr. Siti Norlia Othman	91459537	ctnorlia@hctm.ukm.edu.my
10.	Dr. Umi Kalsom@Satariah Ali	91459535	satariah@hctm.ukm.edu.my

11.	Dr. Muttaqillah Najihan Abdul Samat	91459584	muttaqillah@hctm.ukm.edu.my
12.	Dr. Wong Kon Ken	91459538	wkk@hctm.ukm.edu.my
13.	Dr Asiyah Nordin	91459580	asiyah.nordin@hctm.ukm.edu.my
14.	Dr Jauhary Effendi Juma'at	91459583	jauhary@ukm.edu.my
<b>DIRECTORY OF TEACHING STAFF (INFECTIOUS CONTROL UNIT)</b>			
	Dr. Sharifah Azura Salleh	91455935	drazura@hctm.ukm.edu.my

<b>DIRECTORY OF TEACHING STAFF (PARASITOLOGY AND MEDICAL ENTOMOLOGY)</b>			
<b>NO</b>	<b>NAMES OF LECTURERS</b>	<b>PHONE NO.</b>	<b>E-MAIL ADDRESS</b>
1.	Prof. Madya. Dr. Emelia Osman	91459595	emelia.osman@ukm.edu.my
2	Dr. Zulkarnain Md Idris	91459596	zulkarnain.mdidris@hctm.ukm.edu.my
3.	Dr. Azlin Muhammad @ Mohd. Yasin	91459599	azlinmy@ukm.edu.my
4.	Dr. Anisah Nordin	91459592	anisah.nordin@ukm.edu.my
5.	Dr. Aishah Hani Azil	91459597	aishah.azil@hctm.ukm.edu.my
6.	Dr. Wathiqah Wahid	91459598	wathiqah.wahid@hctm.ukm.edu.my
7.	Dr Vinoth Kumarasamy	91459593	vinoth@ukm.edu.my

**Head of Programme and Contact Information:**

Prof Madya Dr Suria Hayati Md Pauzi  
Head of Department of Pathology  
Tel: 03-9145 8667  
Email : [kjpato@hctm.ukm.edu.my](mailto:kjpato@hctm.ukm.edu.my)

**Administrative Assistant:**

1. Puan Nordiana bt Norshah  
Department of Pathology  
Tel : 03-9145 9483  
Email : [diana@hctm.ukm.edu.my](mailto:diana@hctm.ukm.edu.my)
2. Puan Wan Norhanis Nabila bt Wan Rosli  
Department of Medical Microbiology  
Tel : 03-9145 9520  
Email : [wan.norhanis.nabila.wan.rosli@hctm.ukm.edu.my](mailto:wan.norhanis.nabila.wan.rosli@hctm.ukm.edu.my)

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3. Secretariat of Postgraduate Studies <https://www.ukm.my/spsfper/>
4. Faculty of Medicine <https://www.ukm.my/medicine/language/ms/utama-fakulti-perubatan-ukm/#gsc.tab=0>

## 4. Programme Structure

### Stage 1 (Year 1)

The syllabus in Year 1 focuses primarily on Anatomical Pathology (refer to Syllabus Guidebook section/*Buku Panduan Silibus Program*). Other pathology sub-disciplines (Haematology, Medical Microbiology, and Chemical Pathology) are undertaken as minor postings (4 weeks only for each sub-discipline).

### Stage 2 (Years 2–4)

- Part 2 (Years 2–4) represents the advanced stage (Stage 2) of training, focusing on the progressive acquisition of specialist-level competency (Level 5) in Anatomic Pathology through supervised, workplace-based training.
- The training encompasses:
  - Histopathology (surgical pathology)
  - Cytopathology (including FNAC)
  - Autopsy pathology (clinical exposure)
  - Ancillary techniques (immunohistochemistry, molecular pathology, digital pathology)
  - Laboratory management and quality assurance
  - Research and scholarly activities

Training follows a spiral competency model, where Trainees progressively handle cases of increasing complexity, transitioning from supervised to independent practice.

Trainees are assessed continuously through workplace-based assessments (DOPS, CBD, ECE, MSF) and must maintain a portfolio documenting their progress. A supervised research project is mandatory. Successful completion of all training requirements, including the final examination, is required for graduation as a specialist in Anatomic Pathology.

### **Duration of the programme**

The maximum duration permitted to complete the course is seven years. The maximum duration permitted to complete the Stage 1 course is two years and the maximum duration permitted to complete the Stage 2 course is five years.





UNIVERSITI  
KEBANGSAAN  
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*The National University  
of Malaysia*

# DOCTOR OF PATHOLOGY (ANATOMIC PATHOLOGY)

To become competent and independent specialist pathologists who can accurately diagnosis diseases using morphological assessment, ancillary techniques, and clinical correlation.



## Graduate Attributes



Competent diagnostic anatomic pathologist



Effective communicator in pathology



Ethical and professional practitioner



Lifelong learner and researcher



Readiness for specialist practice

## 5. Teaching and Learning Strategies

The programme employs a variety of structured and work-based teaching and learning strategies to support the development of knowledge, diagnostic skills, and professional competencies in anatomic pathology.

- i. **Lectures**  
Formal teaching sessions that provide foundational and advanced theoretical knowledge in pathology, including disease mechanisms, classification systems, and diagnostic criteria
- ii. **Case Presentations**  
Trainees present selected cases to peers and supervisors, enhancing understanding of disease processes, diagnostic reasoning, and communication skills
- iii. **Case Discussion**  
Interactive discussions of clinical cases focusing on clinicopathological correlation, differential diagnosis, and decision-making.
- iv. **Journal clubs**  
Critical appraisal of current scientific literature to develop evidence-based practice, analytical thinking, and research literacy.
- v. **Clinical laboratory work**  
Hands-on participation in routine laboratory activities including specimen handling, processing, and reporting under supervision.
- vi. **Seminars**  
Short, focused presentations by Trainees on specific pathology topics to reinforce knowledge acquisition and presentation skills.
- vii. **Case reporting**  
Preparation and documentation of pathology reports, fostering accuracy, clarity, and diagnostic competency.
- viii. **Multidisciplinary Team Meetings (MDT)**  
Participation in MDT discussions integrating pathological findings with clinical and radiological information to support patient management.
- ix. **Intensive courses**  
Structured teaching blocks designed to consolidate knowledge in key areas and prepare Trainees for examinations.
- x. **Clinicopathological conferences**

Formal case-based sessions emphasizing correlation between clinical presentation, pathological findings, and final diagnosis.

- xi. **Self-directed learning**  
Independent study and literature review to promote lifelong learning and continuous professional development.
- xii. **Autopsy sessions**  
Supervised performance and discussion of autopsy cases to understand disease processes, cause of death, and clinicopathological correlation.
- xiii. **Research discussion and presentation**  
Regular meetings with supervisors to discuss research progress, methodology, and findings, culminating in formal presentations.
- xiv. **Case Reviews**  
Systematic review of selected cases with supervisors to reinforce diagnostic accuracy and reflective learning

## 6. Training Requirements

The training requirements ensure that trainees achieve the necessary clinical exposure, competency, and professional development throughout the programme.

Trainees are required to:

- Maintain an up-to-date logbook documenting clinical cases, procedures, and competencies, verified by supervisors.
- Compile a trainee portfolio including workplace- based assessment (WPBA) records, feedback and academic activities.
- Complete a supervised research project, including proposal, data collection, analysis, and final report in Stage 2 of programme.
- Participate actively in Continuous Medical Education (CME) activities such as seminars, journal clubs, and workshops.
- Undertake elective postings (where applicable) to broaden clinical and laboratory exposure.

Compliance with these requirements is monitored through regular review by supervisors and programme coordinators, and is essential for progression to the next stage of training.

## 7. Progression criteria

Progression within the Doctor of Pathology (Anatomic Pathology) programme is based on a comprehensive evaluation of the trainee's performance, competency, and professional development at each stage of training.

Trainees are required to demonstrate **satisfactory completion of training requirements**. Competency in core diagnostic skills and laboratory practices must be achieved and verified through continuous assessment and supervisor evaluation.

In summary, trainees must demonstrate\*:

- Satisfactory completion of training requirements and attendance
- Verified competency in core diagnostic skills
- Satisfactory progress in research activities in Stage 2
- Positive supervisor recommendation
- Successful completion of summative examination (where applicable)

\*Final decisions are made through a departmental review to ensure trainees meet the expected standards.

## 8. Assessment Framework

### Formative (continuous) assessments

Continuous trainees' assessment will be conducted using workplace-based assessment (WPBA). WPBA that will be used in Stage 1 will include DOPS, ECE, CBD and MSF. This is a structured and comprehensive evaluation approach designed to assess the practical skills, competencies, and professional behaviors of trainees in their actual working environment. It involves direct observation and feedback on day-to-day activities, ensuring that trainees are meeting the required standards for the profession. All trainees will be provided with appropriate information about the frequency, methods and criteria of the assessments at the beginning of the semester.

### Summative assessments

Summative assessment is conducted at the end of each training stage to evaluate overall competency and readiness for progression.

1. **Part 1 Examination (Year 1):** Assesses foundational knowledge and basic practical skills across core pathology disciplines through theory and practical components.
2. **Part 2 Examination (Year 4):** Final exit examination assessing advanced diagnostic competence, clinical reasoning, and readiness for independent specialist practice.

Details of summative assessment are further elaborated in the following sections.

## 9. Method of Assessment

Workplace based assessment (WPBA) tools used in the programme include DOPS, ECE, CBD, and MSF. These assessments are implemented continuously throughout the training period to evaluate Trainees' performance in real clinical and laboratory settings. The assessment tools and its description are summarized in the table below.

Assessment Tool	Description
<b>DOPS</b>	Direct observation of specimen handling, grossing and procedural skills
<b>CBD</b>	Case-based discussion evaluating diagnostic reasoning
<b>ECE</b>	Evaluation of clinical events
<b>MSF</b>	Multisource feedback from clinicians, technologists and peers
<b>Logbook</b>	Documentation of cases handled including type of specimen and procedure with supervisor verification
<b>Supervisor Progress Report</b>	Continuous workplace-based evaluation

Below is a table outlining the minimum number of assessments that must be fulfilled during the 4-year programme.

No	Type of assessments	Stage 1		Stage 2					
		Year One		Year Two		Year Three		Year Four	
		Sem 1 & Sem 2		Sem 3	Sem 4	Sem 5	Sem 6	Sem 7	Sem 8
1.	DOPS	1		1	1	1	2	2	
2.	ECE	1		3	3	2	1	1	1
3.	CBD			3	3	3	3	3	3
4.	MSF		1		1		1		1
5.	Research course forms			1	1	1	1	1	1
6.	PPD forms	1	1	1	1	1	1	1	1

## 10. DrPath Course Objective, Structure, Learning Outcomes, Teaching Delivery and Assessment Stage 1 (Year 1)

### Specific Objectives

By the end of Year 1, trainees should be able to:

- i. acquire basic theoretical knowledge in pathology.
- ii. acquire basic practical competence in the performance.
- iii. interpret common laboratory tests.
- iv. acquire basic knowledge in laboratory management including laboratory organization, quality control and laboratory safety.

The trainee shall undergo a rotation of minor posting in the 4 major disciplines, each of 4 weeks duration. The 4 major disciplines are: Anatomic Pathology, Haematology, Chemical Pathology and Medical Microbiology. The minor posting will be followed by 20 weeks of core postings in Anatomic Pathology, aiming to equip students with the core theoretical knowledge and practical competence required to analyze and interpret diagnostic tests in Anatomic Pathology, while fostering professional ethics, effective

communication, and collaborative teamwork within a hospital laboratory setting to enhance patient care.

An orientation course will be held at the beginning of the academic year and an intensive course during the academic year. During the postings, the trainees shall maintain a log book, a trainees' portfolio and perform to the supervisor's satisfaction a list of procedures (refer student Dossier and relevant WPBA).

### Teaching delivery in stage 1

- a. Student -teacher ratio  
Within the programme, student-teacher ratio is maintained at 1:4, to allow trainees to receive individualized guidance and support throughout their study
- b. Syllabus of the curriculum /*Buku Panduan Silibus Program*: Please refer the syllabus for details of programme.
- c. Trainees must register for the designated courses in both Semester 1 and Semester 2 of the academic year. The registration process will be conducted online and must be completed within the specified timeframe.
- d. Structured Learning Opportunities  
Examples include lectures, seminars as formal teaching, and histopathology slide teaching sessions as supervised clinical activity.
- e. Hands-On Training  
Trainees will actively partake supervised laboratory activities.
- f. Supervision and monitoring of trainees' progress  
In Year 1, an academic supervisor will be appointed to guide and support the trainees throughout the 4 years training period. Regular meetings between the supervisor and trainees will be conducted to review and discuss the trainees' overall academic achievements and requirements. At the end of each semester, the trainees' performance and progress will be evaluated and discussed in a program management meeting to ensure they are meeting the necessary milestones and objectives.
- g. Logbooks  
Trainees are required to meet the requirements as delineated in the provided logbooks. Progress of logbook entries will be monitored regularly by the program coordinator, science officers and academic staffs.
- h. Workplace Based Assessments (WPBA) record  
Trainees must complete a minimum of one DOPS and one ECE assessment as part of the WPBA requirements.
- i. Performance evaluation to proceed to the next level of training will be conducted at the end of semester 2 (see Progression Criteria).

- j. Trainees need to fulfil the requirement to sit for Part 1 examination and pass the examination to proceed to Year 2 of training.

### **Framework of Teaching-Learning Time in stage 1**

#### **Minor/Foundation Postings (Semester 1)**

<b>Subject</b>	<b>Duration</b>
Orientation	1 week
Posting 1 (Medical Microbiology)	4 weeks
Posting 2 (Chemical Pathology)	4 weeks
Posting 3 (Haematology)	4 weeks
Posting 4 (Anatomical Pathology)	4 weeks

#### **Core Postings**

##### Semester 1

FFPA6119: Patologi Anatomik Teras I

<b>Subject</b>	<b>Duration</b>
Anatomical Pathology	9 weeks

##### Semester 2

FFPA612F: Patologi Anatomik Teras II

<b>Subject</b>	<b>Duration</b>
Anatomical Pathology	11 weeks
Intensive Course*	2 weeks
Anatomical Pathology	8 weeks
Study Leave	1 week
Part 1 Examination	4 weeks

\*Subject to changes

### Course Structure for Minor/Foundation Postings (Semester 1 of year 1)

Introduction : The programme begins with minor, foundation postings, where Trainees rotate through key pathology disciplines to build fundamental knowledge and basic laboratory competencies.

This is followed by core postings, which focus on Anatomical Pathology, emphasizing advanced diagnostic skills, structured learning, and preparation for the Part 1 examination.

No	Course Code and credit hours (CH)	Course Name	Duration	CLO (Course Learning Outcomes)	Method of Delivery	Method of Assessment
1.	FFPA6313 (CH:3)	<b>Principles of Anatomic Pathology</b>	4 weeks	<ol style="list-style-type: none"> <li>1. Describe the principles of diseases in anatomic pathology.</li> <li>2. Demonstrate skills in interpreting basic laboratory tests in anatomic pathology.</li> </ol>	Seminar, lecture, case presentations, journal clubs	ECE, DOPS
2	FFPH6213 (CH:3)	<b>Principles of Hematology</b>	4 weeks	<ol style="list-style-type: none"> <li>1. Describe the principle of diagnosis and treatment of haematological diseases and transfusion medicine</li> <li>2. Interpret basic laboratory tests for the diagnosis of haematological diseases and transfusion medicine.</li> </ol>	Project, practical sessions	ECE, DOPS

3.	FFPK 6413 (CH:3)	<b>Principles of Chemical Pathology</b>	4 weeks	<ol style="list-style-type: none"> <li>1. Explain the principles of clinical biochemistry for the purpose of diagnosing and monitoring human diseases.</li> <li>2. Demonstrate skills in interpreting basic laboratory tests for routine and specialized chemical pathology testing.</li> </ol>	Tutorial, practical , laboratory demonstration	CBD, DOPS
4.	FFPM6113 (CH:3)	Principles of Medical Microbiology		<ol style="list-style-type: none"> <li>1. Describe the basic principles for diagnosis, antimicrobial treatment, prevention, and control of infectious diseases.</li> <li>2. Demonstrate skills in interpreting basic laboratory tests for the diagnosis of infectious diseases.</li> </ol>	Lecture, tutorial, Discussion, practical	Quiz, DOPS
5.	FFPA6119 (CH:9)	<b>Fundamentals of Anatomic Pathology I</b>	9 weeks	<ol style="list-style-type: none"> <li>1. Application of basic theoretical knowledge and practical in anatomic pathology.</li> <li>2. Demonstrate the ability to interpret diagnostic tests in the field of Anatomic Pathology.</li> <li>3. Demonstrate communication skills and the ability to work effectively in a team to support patient care.</li> </ol>	Lecture, presentations, discussion, journal clubs  Lab practicals and case presentation  MDT, CPC	CBD, DOPS, MSF

6	FFPA612F (CH:15)	Patologi Anatomik Teras II	11 weeks	<ol style="list-style-type: none"> <li>1. Describe the principles of diseases in Anatomic Pathology</li> <li>2. Demonstrate competence in analysis of diagnostic tests in the fields of Anatomic Pathology.</li> <li>3. Integrate the professional values, attitude and ethics while working in the hospital's diagnostic laboratories.</li> </ol>	Lecture, presentations, discussion, journal clubs  Lab practicals and case presentation  MDT, CPC	Summative examinations, OSPE, DOPS and MSF.
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## **Stage 1 Assessment**

### **Formative (Continuous) Assessment**

- i. In Stage 1, the trainee is required to maintain a log book to record all procedures performed and level of competence achieved. The log book is to be signed by a medical laboratory technologist, scientific officer (where relevant) or a supervising pathologist.
- ii. The log book/ final progress report shall be submitted to the Head of the Department of Pathology/Program Coordinator at the end of the last posting in Stage 1.
- iii. WPBAs and Supervisory reports will also be part of the assessment process. WPBA (DOPs, MSF and ECE) provide structured and ongoing feedback on the trainee's academic performance, clinical competence, and areas for improvement. Supervisory reports, completed by the assigned academic supervisor, contribute to the overall evaluation of the trainee's progress and readiness for progression to the next stage of training.
- iv. Unsatisfactory performance or non-fulfillment of training requirements of Stage 1 training are grounds for barring a trainee from sitting the Stage I examination.

### **Summative assessment**

#### **Prerequisites for sitting the Part 1 Summative Examination**

To be eligible to sit the Professional Part 1 Examination the trainees must have:

- i. Satisfactorily completed all postings in Stage I (Year 1).
- ii. Fulfill the minimum attendance requirement (at least 85%)
- iii. Demonstrate satisfactory performance in continuous assessment
- iv. Achieve satisfactory evaluation by the department.

## Professional Part 1 Summative Examination

The Part 1 examination comprises

1. Theory papers
2. Practical papers

The allocation of marks in the Part 1 examination shall be as follows:

Theory 50% (Theory 1 =40% + Theory 2 = 60%)  
Practical 50%

The breakdown of each theory examination information are as follows:

Theory Component	Number of questions		Duration of theory examination	Weightage *
	MCQ*	Essay		
Theory 1	20 Multiple True/False (with negative markings) 20 SBA	-	60 minutes	40%
Theory 2	-	4 short note questions (15 marks each)	120 minutes	60%

\*Total of which will then be converted into 50% for theory

The breakdown of practical examination are as follows:

Practical	Component	Duration	Weightage
OSPE	Anatomic Pathology (20 stations)	120 minutes  <i>Approximately 8 minutes per station</i>	50%
	Each station carries 10 marks (Total marks=20 0)		

**Criteria for pass in Professional Part 1 Summative Assessment:**

The trainee must obtain an overall score of 50% AND  
obtain a score of  $\geq 50\%$  for each theory and practical components.

**Repeat examinations:**

1. A trainee who has failed may be allowed to repeat the examination after 6 months.
2. A trainee is allowed a maximum of two repeat examination.

Note: Trainees who do not pass the examination on the first attempt may nevertheless progress to Year 2 of training. A repeat examination may be undertaken at the end of the first semester of Year 2. Should the trainee fail the second attempt, a third and final attempt may be undertaken during the second semester of Year 2. Trainees who fail to pass the examination after three attempts will be withdrawn from the programme.

## **ADDITIONAL REQUIREMENTS FOR A TRAINEES TO ADVANCE TO NEXT STAGE OF TRAINING STAGE 2**

In addition to passing the professional Part 1 examinations, the criteria used to assess trainees' performance for progression to the next stage of training are outlined as follows.

<b>Requirement</b>	<b>Criteria</b>	<b>Evidence</b>
Completion of Training Period	Completed the designated training period (24 weeks/semester)  *at least 85% of attendance	Attendance and leave records
Formative (Continuous ) Assessment	Demonstrates satisfactory performance in all required continuous assessments and evaluations.	WPBA assessment records and Logbook
Department Assessment Evaluation	Achieve satisfactory evaluation by the department.	Minutes of Mesyuarat Pemantauan Pelajar (Borang Semakan Kemajuan Pelajar)

## 11. DrPath Course Objective, Structure, Learning Outcomes, Teaching Delivery and Assessment Stage 2 (Years 2 -4)

### Specific Objectives :

By the end of Stage 2, the trainees should be able to:

- i. apply advanced knowledge in Anatomic Pathology for accurate diagnosis and clinicopathological correlation.
- ii. demonstrate competence in reporting histopathology, cytopathology, and autopsy cases, including use of ancillary techniques.
- iii. perform independent clinical reasoning and decision-making in routine and complex cases.
- iv. communicate effectively in multidisciplinary settings.
- v. demonstrate professionalism, leadership, and adherence to laboratory standards.
- vi. conduct and complete a research project.
- vii. apply principles of laboratory management and quality assurance.

During Stage 2, trainees undergo structured rotations with increasing diagnostic responsibility. Trainees must maintain a logbook, portfolio, with research documentation, and demonstrate competency through Workplace-Based Assessments (WPBA) as outlined in the trainee dossier.

### Teaching Delivery Stage 2

- a. Trainee-Teacher Ratio  
Within the programme, student-teacher ratio is maintained at 1:4, to allow trainees to receive individualized guidance and support throughout their study.
- b. Syllabus of the curriculum /*Buku Panduan Silibus Program*: Please refer the syllabus for details of programme.
- c. Trainees must register for the designated courses in both Semester 1 and Semester 2 of the academic year. The registration process will be conducted online and must be completed within the specified timeframe.

d. Quality Management

It is imperative that Trainees become well-versed in, and adhere to, the quality management system requirements, including standards such as MS ISO15189 and ISO 9000.

e. Structured Learning Opportunities

Trainees will actively participate in a diverse range of educational activities, including case presentations, interactive seminars, journal reviews, and small group discussions. These sessions are to deepen trainees' comprehension of selected topics and foster active involvement.

f. Hands-On Training

Trainees will actively participate in core anatomic pathology service activities, including specimen reception and gross examination (grossing), histopathological slide interpretation and reporting, intraoperative consultations (frozen sections), and multidisciplinary clinicopathological discussions. Trainees will also be involved in regular on-call duties, laboratory management and administration, and quality assurance and quality control (QA/QC) processes. All activities will be undertaken under the supervision of qualified anatomic pathologists to ensure safe practice and progressive competency development.

g. Research Project

Trainees will be appointed a research supervisor in year 2. Trainees will be tasked with planning, executing, and documenting a research project or dissertation, with the requirement to submit it at least 2 months before their Professional part 2 examination. See also Guide for Doctor of Pathology (Anatomic Pathology) Research Project.

h. Continuous Medical Education (CME)

Active engagement in Continuous Medical Education (CME) activities within each posting in the department or other institutions are highly encouraged. These activities will help trainees stay abreast of the latest developments in the field and contribute to their professional development.

i. Elective Postings

Trainees will have the opportunity to go for elective postings in both laboratory and clinical fields. They are expected to submit an evaluation form for each elective posting (see Evaluation Form for short clinical training).

j. Logbooks and Competency Assessment Form

Trainees are required to meet the training requirements as delineated in the provided logbooks and in the competency records. Progress of logbook entries and competency assessments records will be monitored regularly by the program coordinator, science officers and academic staffs. The logbook primarily contains a detailed record of cases managed by the trainee, including case details, type of procedure and supervisor verification. The

competency assessment form is a structured tool used to evaluate the trainee's practical skills in specimen grossing within the histopathology laboratory. It assesses key domains including case identification, adherence to safety protocols, use of personal protective equipment, grossing technique, adequacy of tissue sampling, and overall laboratory practice.

In addition, trainees are required to achieve the minimum prescribed caseloads and procedural exposures throughout the training programme to ensure adequate breadth and depth of clinical experience. The required minimum numbers are outlined in the Programme Syllabus Book and serve as evidence of progressive competency development toward independent specialist practice.

k. Active Participation in the Academic and Management activities

Trainees are required to engage in the teaching and learning activities of the academic programs and management activities in the laboratory. This participation enriches their overall educational experience and contributes to their well-rounded development. Participation in these events should be documented in the trainees' portfolio.

l. Supervision

An academic supervisor will be appointed to each trainee for the duration of the training programme to provide guidance, monitor progress, and support overall academic development. Where appropriate, the academic supervisor may also serve concurrently as the research supervisor.

m. Workplace-based Assessment (WPBA)

In Stage 2, trainees continue to be assessed through Workplace-based Assessment (WPBA) using DOPS, ECE, CBD, and MSF, with greater emphasis on advanced clinical reasoning, diagnostic accuracy, and independent practice. Assessments focus on real-world performance, including case management, reporting, and multidisciplinary communication. Professional competencies such as leadership, teamwork, and accountability are also evaluated. Clear guidance on assessment requirements is provided at the start of each semester, with ongoing formative feedback to support progression and readiness for the Part 2 examination (refer Dossier, Trainees Portfolio and Programme Syllabus).

n. Case Reports

Submission of a minimum of one case report to a journal during stage 2 of training. Proof of submission of this case report is a prerequisite for sitting the Part 2 examination.

## **Framework of Teaching-Learning Time in stage 2**

Following are sample timetables for the relevant courses:

### **Week 1**

	<b>8.00-10.00am</b>	<b>10.00-1.00pm</b>	<b>2.00-5.00pm</b>
<b>Monday</b>	Lab work	Lab work	Lab work
<b>Tuesday</b>	Lab work	Lab work	Lab work
<b>Wednesday</b>	CPC	Lab work	Lab work
<b>Thursday</b>	Lab work	Lab work	Lab work
<b>Friday</b>	Lab work	Lab work	Lab work

### **Week 2**

	<b>8.00-10.00am</b>	<b>10.00-1.00pm</b>	<b>2.00-5.00pm</b>
<b>Monday</b>	Lab work	Lab work	Lab teaching
<b>Tuesday</b>	Lab work	Lab work	Lab teaching
<b>Wednesday</b>	CPC	Lab work	Lab teaching
<b>Thursday</b>	Lab work	Lab work	Lab teaching
<b>Friday</b>	Journal club presentation (Presenter)	Lab work	Lab teaching

### **Week 3**

<b>Day</b>	<b>8.00-10.00am</b>	<b>10.00-1.00pm</b>	<b>2.00-5.00pm</b>
<b>Monday</b>	Lab work	Lab work	Lab work
<b>Tuesday</b>	Lab work	Lab work	Lab work
<b>Wednesday</b>	CPC	Lab work	Multidisciplinary MDT presentation
<b>Thursday</b>	Lab work	Lab work	Lab work
<b>Friday</b>	Journal club presentation (Attendee)	Lab work	Lab work

### **Week 4**

<b>Day</b>	<b>8.00-10.00am</b>	<b>10.00-1.00pm</b>	<b>2.00-5.00pm</b>
<b>Monday</b>	Lab teaching	Lab teaching	Lab teaching
<b>Tuesday</b>	WPBA (DOPS)	WPBA (CBD)	WPBA (ECE)
<b>Wednesday</b>	CPC	Research Activity	Research Activity
<b>Thursday</b>	Journal club presentation (Attendee)	Research Activity	Research Activity
<b>Friday</b>	PPD	PPD	PPD

## Week 5

Day	8.00-10.00am	10.00-1.00pm	2.00-5.00pm
Monday	WBA (DOPS)	WBA (CBD)	WBA (ECE)
Tuesday	WBA (DOPS)	WBA (CBD)	WBA (ECE)
Wednesday	WBA (DOPS)	WBA (CBD)	WBA (ECE)
Thursday	WBA (DOPS)	WBA (CBD)	WBA (CBD)
Friday	WBA (CBD)		

## Week 6

Day	8.00-10.00am	10.00-1.00pm	2.00-5.00pm
Monday	WBA (DOPS)	WBA (CBD)	WBA (ECE)
Tuesday	WBA (DOPS)	WBA (CBD)	WBA (ECE)
Wednesday	WBA (DOPS)	WBA (CBD)	WBA (ECE)
Thursday	WBA (DOPS)	WBA (CBD)	WBA (CBD)
Friday	WBA (DOPS)	WBA (CBD)	

## Examination Weeks

### Week 1

Day	9.00-10.00am	10.00-12.00pm	2.00-5.00pm
Monday	Practical Exam	Practical Exam	Practical Exam
Tuesday	Rest	Rest	Rest
Wednesday	Rest	Rest	Rest
Thursday	Practical 1	Practical 1	Rest
Friday	Practical 2	Practical 2	Rest

### Week 2

Day	9.00-10.00am	10.00-12.00pm	2.00-5.00pm
Monday	Theory Paper 1	Theory Paper 1	Rest
Tuesday	Theory Paper 2	Theory Paper 2	Rest
Wednesday	Rest	Rest	Rest
Thursday	Viva-Voce	Viva-Voce	Rest
Friday	Exam Board Meeting	Exam Board Meeting	Rest

No	Course Code and credit hours (CH)	Course Name	Duration	CLO (Course Learning Outcomes)	Method of Delivery	Method of Assessment*
1.	FFPA613F (CH:15)	Patologi Anatomik Lanjutan I / Advanced Anatomic Pathology I	21 weeks	<ol style="list-style-type: none"> <li>1. Analyze surgical specimens through macroscopic evaluation and correlate findings with clinical data for histopathological diagnosis.</li> <li>2. Organize FNA and exfoliative cytopathology samples by identifying key cellular features and diagnostic criteria.</li> <li>3. Perform clinical autopsies and draft comprehensive reports detailing pathological findings and cause of death.</li> </ol>	Clinical labwork, MDT, CPC, Mini seminar	DOPS, CBD, ECE, Logbook, Supervisor report
2.	FFPA614F (CH:15)	Patologi Anatomik Lanjutan II / Advanced Anatomic Pathology II	21 weeks	<ol style="list-style-type: none"> <li>1. Analyze surgical specimens with clinicopathological correlation</li> <li>2. Interpret FNA and exfoliative cytopathology samples by identifying key cellular features and diagnostic criteria.</li> <li>3. Perform clinical autopsies and draft comprehensive reports detailing pathological findings and cause of death.</li> </ol>	Clinical labwork, MDT, CPC  Clinical labwork, seminars  Autopsy sessions, CPC	DOPS, CBD, ECE, MSF, Logbook, Supervisor report

3.	FFPA615F (CH:15)	Patologi Anatomik Lanjutan III / Advanced Anatomic Pathology III	21 weeks	<ol style="list-style-type: none"> <li>1. Interpret complex histopathological specimens and apply ancillary techniques to reach a definitive diagnosis.</li> <li>2. Appraise challenging cytopathology cases and provide differential diagnosis.</li> <li>3. Display clinical autopsy procedures independently and synthesize clinicopathological correlations for CPC presentations.</li> </ol>		DOPS, CBD, ECE, Logbook, Supervisor report
4.	FFPA616F (CH:15)	Patologi Anatomik Lanjutan IV / Advanced Anatomic Pathology IV	21 weeks	<ol style="list-style-type: none"> <li>1. Evaluate complex histopathological specimens with integration of ancillary and molecular techniques.</li> <li>2. Demonstrate the ability to interpret challenging cytopathology cases and provide appropriate differential diagnoses.</li> <li>3. Explain clinical autopsy procedures independently and synthesize clinicopathological correlations for CPC presentations.</li> </ol>	Clinical labwork / Mini seminar / Multidisciplinary teams meeting (MDT) / Clinicopathological	DOPS, ECE, MSF, CBD, logbook, supervisor's report/student progress report

					conference (CPC)	
5.	FFPA617F (CH:15)	Patologi Anatomik Lanjutan V / Advanced Anatomic Pathology V	21 weeks	<ol style="list-style-type: none"> <li>1. Construct comprehensive histopathological diagnosis for high-complexity cases, ensuring integration of molecular and prognostic markers.</li> <li>2. Formulate final cytopathology reports with expert-level precision, including recommendations for clinical management.</li> <li>3. Lead clinical autopsy investigations and provide expert advice to clinical teams regarding disease mechanisms and outcomes.</li> </ol>	Clinical labwork / Mini seminar / Multidisciplinary teams meeting (MDT) / Clinicopathological conference (CPC)	DOPS, ECE, CBD, logbook, supervisor's report/student progress report
6	FFPA618F (CH:15)	Patologi Anatomik Lanjutan VI / Advanced Anatomic Pathology VI	21 weeks	<ol style="list-style-type: none"> <li>1. Construct comprehensive histopathological diagnosis for high-complexity cases, ensuring integration of molecular and prognostic markers.</li> <li>2. Formulate final cytopathology reports with expert-level precision, including recommendations for clinical management.</li> <li>3. Lead clinical autopsy investigations and provide expert advice to clinical teams regarding disease mechanisms and outcomes.</li> </ol>	Clinical labwork / Mini seminar / Multidisciplinary teams meeting (MDT) / Clinicopathological	DOPS, ECE, MSF, CBD, logbook, Summative Assessment (Part 2 Examination)

					conference (CPC)	
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\* Please refer to Dossier and Programme Syllabus Book for specific details of assessment.

## Stage 2 Assessment

### Formative (Continuous) Assessment

Formative assessment in Stage 2 is conducted continuously to monitor the trainee's clinical performance, competency development, and academic progress. Trainees are required to demonstrate satisfactory achievement across the following components:

- i. **Workplace-Based Assessments (WPBA):**  
Completion of required WPBA tools, including Directly Observed Procedural Skills (DOPS), Evaluation of Clinical Encounter (ECE), Case-Based Discussion (CBD), and Multi-Source Feedback (MSF). These assessments must reflect progressive improvement in diagnostic skills, clinical reasoning, and professional behaviour.
- ii. **Logbook:**  
Maintenance of an up-to-date logbook documenting cases grossed and reported, ensuring adequate case mix, increasing complexity, and progression towards independent practice.
- iii. **Competency Assessment Records:**  
Demonstration of competency in key technical and laboratory skills (e.g., specimen grossing, reporting, ancillary techniques) as documented in formal competency assessment forms and validated by supervisors.
- iv. **Research Activities:**  
Completion of required research course documentation, including proposal, progress reports, and dissertation submission with evidence of satisfactory progression as evaluated by the research supervisor. Trainees are encouraged to disseminate their research findings through scholarly activities, such as manuscripts to publications or poster or oral presentations at scientific meetings, conferences, or academic forums. Evidence of such activities may be included in the trainee portfolio as part of academic development. While presentation of research findings in scientific meetings is strongly encouraged, it is **not mandatory** for progression. See also Guide for Doctor of Pathology (Anatomic Pathology) Research Project.
- v. **Supervisor Reports in the Progress Report Form:**  
Regular supervisory evaluations confirming satisfactory clinical performance, professionalism, and readiness for increasing responsibility.
- vi. **Trainee Portfolio:**  
Continuous updating of the trainee portfolio with evidence of WPBA, academic activities, reflective learning, and professional development.
- vii. **Scholarly Activity:**  
Submission of at least **one case report for publication as prerequisite in sitting Part 2 examination**, demonstrating the

trainee's ability to engage in academic writing and contribute to scientific dissemination.

### **Summative assessment**

#### **Prerequisites for sitting the Part 2 Summative Examination (Exit Examination)**

Trainees are eligible to sit for the Final (Exit) Examination only upon demonstrating satisfactory progression throughout the training programme, which constitutes a mandatory prerequisite for admission to the examination.

To be eligible to sit the Professional Part 2 Examination the trainees must have:

- i. completed the designated training period of 4 years
- ii. achieve 100% completion of all required Workplace-Based Assessments (WPBA), with performance rated at a satisfactory level or above.
- iii. submitted a research project dissertation (submission no later than 2 months before the Final Examination)
- iv. submitted completed logbooks (at least 2 months before the Final Examination)
- v. submission of a case report to a journal
- vi. completed all required supervisor reports, with the trainee attaining a minimum rating of satisfactory performance in each report.

Note : An up-to-date and satisfactory trainee Portfolio is required.

#### **Professional Part 2 Examination (Exit Examination)**

The Part 2 examination will be held at the end of Year 4 and comprises:

- a. theory papers
- b. practical papers
- c. structured viva-voce

#### **Allocation of marks:**

The allocation of marks in the Stage II examination shall be as follows:

<b>Component</b>	<b>Description</b>	<b>Weightage</b>
Theory	Paper I & II: essays/SEQ	40%
Practical	Practical I & II	40%
Viva-voce	Structured format	10%
Research	Dissertation/manuscript*	10%
	Total	100%

#### **Criteria for pass:**

- a. Trainee must obtain an overall score of 50%
- b. Trainee must pass BOTH the theory and practical components (The pass mark for each component is 50%).
- c. Attending the viva is COMPULSORY
- d. Proof of submission of a thesis to a journal or a presentation in a scientific meeting

### **Repeat Examinations**

Trainees who do not meet the required standard in the summative assessment will be given the opportunity to undergo a repeat examination. The timing of the repeat examination is structured to allow adequate preparation and remediation.

- a. Repeat examination to be undertaken after six months (failed one component only either theory or practical)
- b. Repeat examination to be undertaken after one year, if
  - i. obtained an overall score of less than 50% OR
  - ii. failed BOTH the theory and practical components OR
  - iii. an overall score of 50% or more, but has failed either the theory or the practical component and the conjoint exam board found that overall performance of the trainee is not satisfactory.

In this repeat examination, the trainee will be examined in the theory and practical components and be given a viva-voce.

- c. A trainee is allowed a maximum of four repeat examinations in stage 2.

The maximum duration permitted for the completion of the entire course is SEVEN (7) years.

## 12. Research Modules

### Research Component (FFPA6234, FFPA6254, FFPA6274)

#### Introduction

The Research Courses in the Doctor of Pathology (DrPath) programme are compulsory longitudinal components designed to develop trainees' competencies in research design, ethical conduct, data management, statistical analysis, scientific writing, and scholarly dissemination.

The research training is structured into three progressive courses:

- **FFPA6234 – Research I: Research Proposal**
- **FFPA6254 – Research II: Data Collection & Analysis**
- **FFPA6274 – Research III: Manuscript Write-up & Presentation**

Each course carries **4 credits (160 SLT hours)** and must be completed sequentially.

#### Overall Objectives of Research Training

The research module aims to enable trainees to:

1. Develop skills in **scientific literature review and critical appraisal**.
2. Design and implement a **clinically relevant research project in anatomical pathology**.
3. Apply **appropriate research methodologies and statistical analysis**.
4. Produce a **manuscript suitable for submission to a peer-reviewed journal**.
5. Present research findings to **scientific and academic audiences**.

#### Course Structure Overview

Course Code	Course Title	Focus	Key Output	Credit hours	SLT
FFPA6234	Research I: Research Proposal	Literature review & proposal development	Approved research proposal	4	160

Course Code	Course Title	Focus	Key Output	Credit hours	SLT
FFPA6254	Research II: Data Collection & Analysis	Conducting research & statistical analysis	Completed dataset and statistical analysis	4	160
FFPA6274	Research III: Manuscript & Presentation	Manuscript writing & dissemination	Manuscript submission and presentation	4	160

### Responsibilities of Trainees

Trainees are expected to:

1. Identify a **relevant research topic** in anatomical pathology.
2. Conduct a **systematic literature search** using recognised databases (e.g., PubMed, Scopus).
3. Develop a **research proposal** with appropriate methodology.
4. Obtain **ethics approval** before commencing the study.
5. Collect and **manage research data** responsibly.
6. Perform appropriate **statistical analysis**.
7. Present findings in **departmental research meetings or scientific conferences**.
8. Submit a **research dissertation** as a prerequisite for eligibility to sit for the examination
9. **Encourage to prepare a manuscript suitable for publication.**

Trainees must maintain documentation including:

- Sample collection log
- Data collection records
- Statistical analysis outputs
- Progress Report forms (see appendix)
- Draft manuscript sections

### Responsibilities of Supervisors

Supervisors are responsible for:

1. Providing **academic mentorship and research guidance**.
2. Assisting trainees in refining the **research question and study design**.
3. Ensuring the study is **scientifically sound and ethically appropriate**.
4. Monitoring research progress through **supervisory meetings**.

5. Reviewing and providing feedback on:
  - Research proposal
  - Data analysis
  - Manuscript drafts
6. Ensuring trainees meet **programme milestones and deadlines**.
7. Submitting **progress evaluations or supervisor reports** where required.

Supervisors should meet trainees **at least once every 6 months** or more frequently if required.

### **Supervision Structure**

Effective supervision is fundamental to ensuring academic rigor, ethical compliance, and timely progression of the research component. A structured supervisory framework provides clear accountability, regular academic guidance, and systematic monitoring of research development. This structure ensures that trainees receive appropriate mentorship while maintaining responsibility for independent scholarly work.

- ✓ Each trainee must have:
  - Primary Supervisor
  - Co-supervisor (if applicable)
  - For research activities undertaken in Ministry of Health (MOH) institutions by outcampus trainees, trainees may have an additional research supervisor appointed from MOH.
- ✓ At least one scheduled meeting per semester recommended.
- ✓ Written progress documentation required (Refer Progress Report Form).

### **Ethics Requirements**

Ethical approval is a mandatory prerequisite for all research conducted within the DrPath UKM programme. Compliance with institutional research governance standards ensures protection of patient rights, data confidentiality, and scientific integrity. Trainees must adhere strictly to Faculty Research & Ethics Committee regulations before, during, and after the conduct of their study.

- Proposal must be submitted to Faculty Research & Ethics Committee UKM (and NMRR if applicable).
- No data collection is allowed prior to ethical approval.
- Amendments in the proposal must be addressed by the trainee following comments made by the Ethics Committee.
- Confidentiality and data security must be maintained.

## **RESEARCH I (FFPA6234): Research Proposal Development**

### **Aim**

To develop a **well-structured research proposal based on current scientific evidence**.

### **Course Focus**

Research I emphasises on the following items for the trainees to achieve\*:

- Conduct a literature review
- Topic refinement
- Develop research objectives
- Estimation of budget
- Proposal writing (to include research methodology and design)
- Proposal presentation at department level
- Submission to Faculty Research & Ethics Committee

\*Refer Proforma Research Module for details

### **Course Output Requirements**

- Literature review summary
- Research proposal document
- Departmental proposal presentation (in slides format)
- Revise proposal post-feedback following departmental review
- Ethics submission documents
- Revision of proposal in response to feedback from Ethics committee

### **Assessment**

Assessment of the research component will be based on the trainee's ability to:

- Identify relevant reference materials for the literature review using online search platforms.
- Discuss with supervisor.
- Propose an appropriate research budget allocation in the preparation of the research proposal.
- Contact the laboratory vendors (if applicable).
- Present and discuss the research proposal at the departmental/faculty level.
- Present the research proposal to the Research Ethics Committee.

Components of Course Learning Outcome, teaching and assessment methods with the weightage are listed in the table below:

Course Learning Outcome (CLO)	Duration	Teaching Method	Assessment Method
Identify suitable reference materials for literature review using online search platforms.	21 weeks	Discussion, self-directed learning, presentation	Supervisor's report/student progress report report *and research proposal presentation** (Continuous assessment)
Propose an appropriate research budget.			
Present the research proposal to the research ethics committee.			

\*See Progress Report form.

\*\*See Assessment Criteria for Research Proposal Presentation Form.

### Key Milestones

The following milestones outline the critical stages that trainees must complete to ensure timely and structured progression through Research I. These checkpoints are designed to promote methodological rigour, early identification of feasibility issues, and compliance with departmental and ethics requirements. Adherence to these milestones will facilitate smooth transition from proposal development to ethical approval and subsequent data collection phases. Trainees are expected to plan proactively with their supervisors to meet each milestone within the stipulated timeframe.

- Topic confirmation
- Literature review completion
- Proposal draft submission
- Departmental presentation
- Ethics committee submission (before end of Semester 2 Year 2)

## **RESEARCH II (FFPA6254): Data Collection & Analysis**

### **Aim**

To conduct the approved research project and perform appropriate data analysis.

### **Course Focus**

Research II emphasises on the following items for the trainees to achieve. After ethics approval, trainees must:

- Obtain ethics approval
- Identify and collect research samples
- Maintain a sample collection log
- Conduct research according to the proposed method
- Organise research data
- Interpret results
- Perform statistical analysis

### **Course Output Requirements**

- Ethical approval
- Sample collection log
- Data collection documentation
- Experimental documentation (if applicable)
- Statistical analysis output
- Research progress report
- Draft results section

### **Assessment**

Assessment will be based on the following criteria:

- Ability to organise research data through appropriate sample selection.
- Ability to independently plan and coordinate research activities in accordance with the proposed methodology.
- Competent in analysing data using appropriate statistical methods.

Components of Course Learning Outcome, teaching and assessment methods with the weightage are listed in the table below:

Course Learning Outcome (CLO)	Duration	Teaching Method	Assessment Method
Organise research data through accurate sample selection.	21 weeks	Discussion, research progress presentation	Supervisor's report/student progress report report* (Continuous assessment) and research progress form***
Implement research activities based on approved methodology.			
Analyse data using appropriate statistical tools.			

\*See Progress Report form.

\*\*\* See Assessment Criteria for Research Progress Presentation Form

### Statistical Tools

The selection of appropriate statistical tools is essential to ensure validity, reliability and scientific credibility of research findings. The choice of analysis must be guided by the research question, study design, type of variables, and distribution of data. Trainees are expected to justify their statistical methods clearly and ensure alignment between objectives, methodology and analysis. Common statistical approaches used in DrPath research projects are outlined below:

- SPSS
- Descriptive statistics
- Comparative analysis (t-test, ANOVA)
- Correlation analysis
- Regression (if applicable)

## **RESEARCH III (FFPA6274): Manuscript Writing, Presentation and Submission**

### **Aim**

To prepare and communicate research findings in the form of a thesis or scientific manuscript.

### **Course Focus**

Research III emphasises on the following items for the trainees to achieve:

- Updating literature review
- Interpretation of findings
- Manuscript or thesis preparation
- Presentation of research findings
- Submission-ready journal manuscript (optional but encouraged)

### **Course Output Requirements**

- Updated literature review
- Final statistical interpretation
- Complete thesis manuscript (IMRAD format) with UKM Thesis Writing Guidelines (GAYA UKM)
- Research presentation
- Manuscript submission to an indexed or peer reviewed journal is strongly encouraged.

### **Assessment**

Assessment of this module will be based on the following criteria:

- Ability to demonstrate competency in searching and updating literature using reliable online scientific databases
- Ability to present research findings independently to an academic audience.
- Produce a scientific manuscript to communicate research findings to the scientific community.

Components of Course Learning Outcome, teaching and assessment methods with the weightage are listed in the table below:

Course Learning Outcome (CLO)	Duration	Teaching Method	Assessment Method
Demonstrate literature search skills using reputable online platforms.	21 weeks	Discussion, research presentation	Supervisor's report/student progress report form*, Evaluation of research report form#(Summative assessment)
Present research findings independently.			
Write a manuscript for scientific dissemination.			

\* See Progress Report form

# The manuscript will be assessed by two internal examiners appointed by the department.

### Research Dissertation Evaluation

The combined scores awarded by two independent examiners for the research dissertation will be weighted to constitute 10% of the final examination marks.

### 13. Personal and Professional Development (PPD) Modules

Please also refer to PPD proforma in the Programme Syllabus Book..

No.	Course Code	Course Name	Course Learning Outcomes (CLO)	Teaching Method	Assesment Method
1.	FFFQ6611	Personal & Professional Development I	To critically evaluate the best practices in decision-making based on current and relevant theories, evidence and sustainability considerations; in particular, respecting the diversity of individuals involved in the process.	Webinar, forum, self learning packages, project	Supervisor's report
2.	FFPU6621	Personal & Professional Development II	To demonstrate ethically grounded and value-based interpersonal skills in patient management, guided by professional standards, empathy, and respect for human dignity	Webinar, forum, self learning packages, project	Supervisor's report
3.	FFPQ6631	Personal & Professional Development III	To apply safe and appropriate clinical skills through integrated problem-solving that synthesizes medical regulations, patient context, and interprofessional considerations in patient management	Seminars, forums, self-learning packages	Supervisor's report
4.	FFPQ6641	Personal & Professional Development IV	To demonstrate ethical and professional conduct in patient care through continuous self-awareness, reflection on personal values, and	Seminars, forums,	Supervisor's report

			adherence to the medical code of professional practice	self-learning packages	
5.	FFPQ6651	Personal & Professional Development V	To demonstrate effective, empathetic and collaborative communication with patients, families and healthcare team members to support shared understanding and joint decision-making in patient care.	Seminars, forums, self-learning packages	Supervisor's report
6.	FFPQ6661	Personal & Professional Development VI	To demonstrate strategic leadership within the healthcare team by anticipating clinical needs, coordinating roles, and guiding collective actions to ensure safe and effective patient management.	Seminars, forums, self-learning packages	Supervisor's report
7.	FFPQ6671	Personal & Professional Development VII	To apply digital skills and medical technologies safely by anticipating potential risks, ethical implications, and future impacts on patient safety and healthcare systems	Seminars, forums, self-learning packages	Supervisor's report
8.	FFPQ6681	Personal & Professional Development VIII	To critically evaluate patient progress data safely and accurately by understanding the interrelationships between clinical parameters,	Seminars, forums, self-learning packages	Supervisor's report

			healthcare processes, and system- level factors influencing patient outcomes.		
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## 14. List of Recommended Materials and Resources

### Stage 1 (Year 1)

Anatomic Pathology	<ol style="list-style-type: none"> <li>1) Robbins &amp; Cotran Pathologic Basis of Disease 10th Edition (Published date May 2020)</li> <li>2) Wheater's Basic Pathology: A Text, Atlas and Review of Histopathology by Geraldine O'Dowd (latest edition) @ Wheater's Basic Histopathology by Alan Stevens. James S. Lowe, Barbara Young., 6th edition, 2014</li> <li>3) Theory and Practice of Histological Techniques. Bancroft JD and Stevens A.. Churchill Livingstone., 7th edition, 2013</li> <li>4) The Practice of Surgical Pathology: A beginners's guide to the diagnostic process by Diana Weedman Molavi, 2008</li> <li>5) Rosai and Ackerman's Surgical Pathology. 11th edition. Elsevier (2017).</li> <li>6) Lester, Susan C. Manual of Surgical Pathology. Third ed.: Mosby, 2010</li> <li>7) WHO Classification of Tumour Series</li> </ol>
Hematology	<ol style="list-style-type: none"> <li>1) Victor Hoffbrand, Paresh Vyas, Elias Campo, Torsten Haferlach, Keith Gomez. 2019. Color Atlas of Clinical Hematology: Molecular and Cellular Basis of Disease. 5th Edition. Wiley.</li> <li>2) B. J. Bain, I. Bates and M. A. Laffan. 2017. Dacie and Lewis Practical Haematology. 12th Edition. Elsevier.</li> <li>3) Denise M. Harmening. 2012. Modern Blood Banking and Transfusion Practices. 6th Edition. F.A Davis Co</li> <li>4) Michael F. Murphy, David J Roberts. 2017. Practical Transfusion Medicine. 5th Edition. Wiley.</li> <li>5) Pettit JE, Moss P and Hoffbrand AV. 2007. Essential Haematology. 5th Edition. Blackwell Scientific</li> </ol>
Chemical Pathology	<ol style="list-style-type: none"> <li>1) Marshall WJ &amp; Bangert SK, Clinical Chemistry</li> <li>2) Phillip Mayne, Clinical Chemistry: Diagnosis and Treatment.</li> <li>3) Burtis CA, Ashwood ER &amp; Bruns DE, Tietz Textbook of Clinical Chemistry and Molecular Diagnostics</li> <li>4) Kaplan LA, Pesce AJ &amp; Kazmierczak SC, Clinical Chemistry: Theory, Analysis, Correlation</li> </ol> <p>Burtis, CA &amp; Ashwood ER, Tietz Fundamentals of Clinical Chemistry, Walmsley, Cases in Chemical Pathology."</p>

<p>Medical Microbiology</p>	<ol style="list-style-type: none"> <li>8) Cotran RS, Kumar V, Robbins SL, 2015: Robbin's Pathologic Basis of Disease. 9th Edition, Elsevier Saunders.</li> <li>9) Fiona Roberts Elaine MacDuff . 2018. Pathology Illustrated. 8th Edition. Churchill Livingstone.</li> <li>10) Richard V Goering, Hazel M Dockrell, Mack Zuckerman, Derek Wakelin, Ivan Roitt, Cedric Mims, Peter L Chiodini, 2018. Mims' Medical Microbiology. 6th Edition. Elsevier Saunders.</li> <li>11) Fatmah Md. Salleh, Norhayati Moktar, Tengku Shahrul Anuar Tengku Ahmad Basri &amp; Azlin Mohd. Yasin. 2016. Practical Guide to Laboratory Techniques in Medical Parasitology. Bangi: Penerbit UKM.</li> <li>12) Noor Hayati Mohd Isa &amp; Karis Misiran. 2015. Colour Atlas on Medical Parasitology. Shah Alam: UiTM Press.</li> <li>13) Paniker, C.K. Jayaram (Author) &amp; Sougata Ghosh (Editor). 2017. Paniker's Textbook of Medical Parasitology. Edisi ke-8. New Delhi: Jaypee Brothers Medical Publishers.</li> <li>14) Sherris, J.C. 2010 (Ed). Sherris Medical Microbiology. An Introduction to Infectious Diseases. 5rd Edition. USA: McGraw-Hill Professional.</li> </ol>
<p>PPD</p>	<ol style="list-style-type: none"> <li>1) Jonathan Herring. 2016. Medical Law and Ethics. Oxford: Oxford University Press.</li> <li>2) Peter Tate, Francesca Frame. 2020. The Doctor's Communication Handbook 8th edition. CRC Press Taylor &amp; Francis Group.</li> <li>3) World Medical Association, Williams John Reynold. 2015. Medical ethics manual. World Health Communication Associates, UK.</li> <li>4) Blake T, Whallett A.2016. Leadership and the medical registrar: how can organisations support these unsung heroes? Postgraduate Medical Journal; 92:735-740.</li> <li>5) Malaysian Medical Council 2019. Code of Professional Conduct. <a href="https://mmc.gov.my/wp-content/uploads/2019/12/CODE-OF-PROFESSIONAL-CONDUCT-2019-Amended-Version.pdf">https://mmc.gov.my/wp-content/uploads/2019/12/CODE-OF-PROFESSIONAL-CONDUCT-2019-Amended-Version.pdf</a></li> </ol>

## Stage 2 (Years 2-4)

Histopathology	<ol style="list-style-type: none"> <li>1. Susan Lester. 2022. <i>Manual of Surgical Pathology</i>. 4th edition. Elsevier</li> <li>2. Suvarna, S.K., Layton, C. &amp; Bancroft, J.D. 2019. <i>Bancroft's Theory and Practice of Histological Techniques</i>. 8th edition. Elsevier</li> <li>3. Kumar, V., Abbas, A. &amp; Aster, J. 2025. <i>Robbins &amp; Cotran Pathologic Basis of Disease</i>. 11th edition. Elsevier</li> <li>4. Goldblum, J.R., Lamps, L.W., McKenney, J.K. &amp; Myers, J.L. 2017. <i>Rosai and Ackerman's Surgical Pathology</i>. 11th edition. Elsevier</li> </ol>
Cytopathology	<ol style="list-style-type: none"> <li>1. Cibas, E.S. &amp; Ducatman B.S. 2025. <i>Cytology: Diagnostic Principles and Clinical Correlates</i>. 6th edition. Elsevier.</li> <li>2. Orell, S.R. &amp; Sterrett, G.F. 2011. <i>Orell &amp; Sterrett's Fine Needle Aspiration Cytology</i>. 5th edition. Churchill Livingstone Elsevier.</li> <li>3. Ali, S.Z. &amp; Cibas, E.S. 2023. <i>The Bethesda System for Reporting Thyroid Cytopathology</i>. 3rd edition. Springer Cham.</li> </ol>
Autopsy	<ol style="list-style-type: none"> <li>1. Catanese, C. 2016. <i>Color Atlas of Forensic Medicine and Pathology</i>. 2nd ed. CRC Press.</li> <li>2. Saukko, P. &amp; Knight, B. 2025. <i>Knight's Forensic Pathology</i>. 5th edition. CRC Press.</li> </ol>
PPD	<ol style="list-style-type: none"> <li>1. Jonathan Herring. 2016. <i>Medical Law and Ethics</i>. Oxford: Oxford University Press.</li> <li>2. Peter Tate, Francesca Frame. 2020. <i>The Doctor's Communication Handbook</i> 8th edition. CRC Press Taylor &amp; Francis Group.</li> <li>3. World Medical Association, Williams John Reynold. 2015. <i>Medical ethics manual</i>. World Health Communication Associates, UK.</li> <li>4. Blake T, Whallett A. 2016. Leadership and the medical registrar: how can organisations support these unsung heroes? <i>Postgraduate Medical Journal</i>; 92:735-740.</li> <li>5. Malaysian Medical Council 2019. Code of Professional Conduct. <a href="https://mmc.gov.my/wp-content/uploads/2019/12/CODE-OF-PROFESSIONAL-CONDUCT-2019-Amended-Version.pdf">https://mmc.gov.my/wp-content/uploads/2019/12/CODE-OF-PROFESSIONAL-CONDUCT-2019-Amended-Version.pdf</a></li> </ol>
Recommended Journals	<ol style="list-style-type: none"> <li>1. Histopathology 2) Archives of Pathology and Laboratory Medicine 3) Malaysian Journal of Pathology 4) Acta Cytologica</li> </ol>
Recommended Guidelines	<ol style="list-style-type: none"> <li>1. <a href="https://www.rcpa.edu.au/Manuals/Macroscopic-Cut-Up-Manual">https://www.rcpa.edu.au/Manuals/Macroscopic-Cut-Up-Manual</a></li> <li>2. <a href="https://www.cap.org/protocols-and-guidelines">https://www.cap.org/protocols-and-guidelines</a></li> <li>3. <a href="https://www.rcpath.org/profession/guidelines/cancer-datasets-and-tissue-pathways.html">https://www.rcpath.org/profession/guidelines/cancer-datasets-and-tissue-pathways.html</a></li> <li>4. <a href="https://www2.moh.gov.my/moh/resources/Penerbitan/CPG/Kanser/Breast%20Cancer/CPG_Management_of_Breast_Cancer_(Third_Edition)_130720.pdf">https://www2.moh.gov.my/moh/resources/Penerbitan/CPG/Kanser/Breast%20Cancer/CPG_Management_of_Breast_Cancer_(Third_Edition)_130720.pdf</a></li> <li>5. <a href="https://www.moh.gov.my/guidelines-for-cervical-cancer-screening-in-malaysia-2023">GUIDELINES FOR CERVICAL CANCER SCREENING IN MALAYSIA 2023 (moh.gov.my)</a></li> <li>6. <a href="https://mts.org.my/resources/NSCLC.pdf">https://mts.org.my/resources/NSCLC.pdf</a></li> </ol>

## 15.Roles & Responsibilities of DrPath (Anatomic Pathology) Trainees

- i. **Registration:**
  - a. Must register within the prescribed period
  - b. Course registration required every semester
- ii. **Orientation & Familiarisation:**
  - a. Attend orientation programme
  - b. Understand programme structure, curriculum, and policies
- iii. **Responsibilities:**
  - a. Attend all teaching sessions (lectures, seminars, practicals)
  - b. Complete assignments and assessments on time
  - c. Maintain academic integrity and ethical conduct
  - d. Assigned academic/research supervisor (Year 2)
- iv. **Laboratory Training:**
  - a. Actively participate in lab and clinical training
  - b. Adhere to safety protocols and professionalism
  - c. Performance continuously monitored
- v. **Continuing Medical Education (CME):**
  - a. Engage in workshops, seminars, conferences
  - b. Encouraged to pursue lifelong learning
- vi. **Professionalism & Ethics:**
  - a. Maintain high standards of professionalism and integrity
  - b. Ensure patient confidentiality and ethical practice
- vii. **Progress Monitoring:**
  - a. Attend progress meetings
  - b. Regular engagement with supervisors is required
- viii. **Completion of Programme Requirements:**
  - a. Complete logbooks, rotations, research, case reports, dissertation
  - b. Failure may result in being barred from examinations
- ix. **Post-Graduation Commitment:**

-Continue professional development and research involvement
- x. **Alumni Engagement:**

-Stay connected with programme and contribute to alumni activities

## 16.Regulations and Monitoring

This section outlines the administrative policies governing trainee conduct, registration, progression, and welfare throughout the programme. Trainees are required to adhere strictly to Universiti Kebangsaan Malaysia (UKM) regulations to ensure smooth progression and compliance with institutional standards.

Section	Policy	Key Requirements / Notes
<b>Leave Entitlements</b>	Vacation / Annual Leave	- 14 days per semester (28 days per year)
	Sick Leave	- 14 days per year
<b>Registration</b>	Semester Registration	- Mandatory within prescribed university period and applies to all new and existing trainees
	Late Registration	- Failure to register within 4 weeks: <i>Dismissed status</i> - Appeal is allowed (max 2 consecutive semesters) but subject to processing fee and late registration fine
<b>Deferment of Programme</b>	Eligibility & Application	- Allowed for valid reasons - Submit written request with supporting documents - Approval required from Head of Department and Dean/Deputy Dean
	Duration	- Maximum: 2 semesters (12 months) - deferment >12 months requires Senate approval - Deferment period not counted in study duration
	Responsibility	- Trainee must inform sponsor [e.g., Ministry of Health(KKM)]
<b>Withdrawal from Programme</b>	Process	- Submit written notice + completed withdrawal form – -Approval required from Head of Department and Dean/Deputy Dean
	Responsibility	- Trainee must inform sponsor
<b>Dismissal of Students</b>	Grounds for Dismissal	- False information (admission/study period) - Certified mental/physical disability - Poor academic performance - Exceeding study duration
	Disciplinary Action	- Subject to UKM regulations - Includes misconduct (e.g., harassment, examiner contact, research misconduct)
<b>Appeal</b>	Right to Appeal	- Permitted under UKM Regulations for Graduate Studies 2021 (Part VII) - Must follow prescribed procedures
<b>Disabilities</b>	Declaration & Support	- Trainees encouraged to declare conditions early, to enable appropriate academic accommodations

## 17.Support Services available for trainees

### Support Services for Trainees at UKM

Universiti Kebangsaan Malaysia (UKM) provides a comprehensive range of support services to ensure that Trainees receive holistic academic, professional, and personal support throughout their training. These services are designed to facilitate effective learning, promote well-being, and enhance overall Trainees development.

#### 1. Academic and Training Support

Trainees are supported through structured academic mentorship and supervision by experienced faculty members. Regular feedback sessions, case discussions, and progress reviews are conducted to monitor performance and guide improvement. Access to curated learning materials, digital pathology platforms, online databases (e.g., journals, e-books), and institutional libraries further supports self-directed and lifelong learning. The integrated digital and advisory ecosystem provided by the Universiti Kebangsaan Malaysia Library to support teaching, learning, and research is as follows:

- **e-Sumber@PTSL**: Central access portal to 58 subscribed databases, covering over 2 million titles, accessible both on- and off-campus by students and staff.
- **GEMILANG (OPAC)**: Online catalogue with over 638,000 titles (1.16 million copies), enabling search, reservation, loan renewal, and user account management.
- **Carian Bestari@UKM**: Unified discovery platform that integrates OPAC, databases, institutional repositories, and journal collections into a single search interface for efficient information retrieval.
- **UKM Journal Article Repository (UJAR)**: Open-access institutional repository hosting 53 journals with over 24,000 articles, providing additional scholarly resources, particularly in Malay.
- **Infoclinic Services**: Personalised librarian support offering consultation on literature searching, database use, reference management, and research strategies.

#### 2. Research Support and Facilities

UKM provides extensive research support, including access to laboratories, statistical consultation services, research methodology workshops, and grant application guidance. Trainees are also supported in ethical approval processes (e.g., JEP submissions), data management, and manuscript preparation to ensure successful completion of research components.

#### 3. Counseling and Psychological Support

Confidential counseling services are available to support Trainees facing personal, emotional, or psychological challenges. These services aim to promote mental well-being, resilience, and work-life balance, which are essential for sustaining performance in a demanding clinical training environment.

#### **4. Clinical and Professional Development Support**

Trainees benefit from continuous professional development activities, including workshops, seminars, multidisciplinary meetings, and continuing medical education (CME) sessions. These platforms enhance clinical competencies, communication skills, and professional conduct in line with healthcare standards.

#### **5. Student Representation and Welfare**

The Student Representative Council (Majlis Perwakilan Pelajar, MPP) and programme-level Trainees representatives serve as formal channels for communication between Trainees and the faculty. These bodies advocate for Trainees welfare, provide feedback on programme delivery, and facilitate engagement in university activities.

#### **6. Administrative and Logistical Support**

Administrative units within the faculty and hospital provide assistance with registration, scheduling, examination coordination, and access to institutional systems (e.g., CHETS, e-learning platforms). Clear communication and support mechanisms are in place to ensure smooth programme administration.

Trainees are strongly encouraged to actively utilise these support services to optimise their learning experience, address challenges proactively, and achieve both academic excellence and professional growth.