

**ANESTH 250**  
**COURSE GUIDE AY 2024-2025**

**I. Course Syllabus**

**A. Course Number**

ANESTH 250

**B. Course Title**

Integrated Clinical Clerkship in Anesthesiology I

**C. Course Description**

Anesth 250 is a 1-week rotation for YL V (Integrated Clinical Clerks) medical students. The course is an introduction to pain management with emphasis on the basics such as definition, anatomy, and pathophysiology of pain. It also includes classification of pain based on chronicity and mechanism, pain assessment, and modalities of treatment, including pharmacologic, non-pharmacologic, and interventional procedures.

The course will be taught through a combination of online, self-paced study and face-to-face interactions between the students and faculty members by way of lectures, preceptorships and small group discussions. Students will be given opportunities to assess chronic pain patients in the Pain Clinic and assess acute pain patients in the PGH Post Anesthesia Care Unit.

Hopefully, this course will enable the students to equip themselves with the basic knowledge in pain management to prepare them for their clinical rotations next year keeping in mind the Universal Health Care framework.

**D. Pre-requisites**

None

**E. Learning objectives**

1. Discuss pain in terms of its evolution and biopsychosocial dimensions.
2. Identify the components of the most common pain pathways.
3. Understand how pain can be transmitted and modulated.
4. Differentiate acute and chronic pain.
5. Differentiate the types of pain based on pathophysiologic mechanisms.
6. Assess pain using pain measurement scales.
7. Formulate a treatment plan using pharmacologic and non- pharmacologic modalities.

**F. List of must-know topics**

Must know topics

1. Definition of pain
2. Nociceptors
3. Pain pathways
4. Acute pain

5. Chronic pain
6. Somatic pain
7. Visceral pain
8. Neuropathic pain
9. Pain assessment tools
10. Pharmacologic management of pain
11. Non-pharmacologic management of pain

#### Additional Topics

1. Pain in special patient population
  - a. Oncology patient
  - b. Obstetric patient
  - c. Pediatric patient
  - d. Elderly patient
2. Prescription writing

### **G. Class schedule / blueprint of activities**

#### **DAY 1:**

<b>Objective:</b> Introduce students to the course content and faculty. Deliver an overview of pain lecture and lecture on cancer pain.		
Orientation	8 – 9 am	Faculty coordinator will give orientation. (questions regarding course, submission of requirements/outputs, etc. can be discussed)
Overview of Pain Lecture	9 – 10 am	Pain Faculty of the week will deliver this lecture
Cancer pain lecture	10 am – 12 noon	Pain Faculty of the week will deliver this lecture
Access UVLE Course	Self-paced	Students will start the online Modules.

#### **DAY 2:**

<b>Objective:</b> Introduce students to special pain population (Pediatric patient, Obstetric patient) Introduce students to the pain clinic		
Pediatric patient	8 – 10 am	Faculty from the Division of Pediatric Anesthesia will deliver this lecture. If there is a pediatric patient in the PACU, students will perform acute pain assessment after the lecture.
Pain clinic	10 am – 12 noon	Students will be introduced to the process in the Pain Clinic. They will assess patients in the Pain Clinic.
Obstetric patient	1 – 3 pm	Faculty from the Division of Obstetric Anesthesia will deliver this lecture.
Access UVLE Course	Self-paced	Students will continue with the online Modules.

**Day 3:**

<b>Objective:</b> Immerse students to the Department of Anesthesiology Conference and Division of Pain Conference. Introduce students to prescription writing and non-pharmacologic modalities.		
Department of Anesthesiology Conference	7 – 9 am	Students will attend and listen to the Department Conference. Active participation is highly encouraged.
Division of Pain Conference	10 – 12 noon	Students will attend and listen to the Division of Pain Conference. Active participation is highly encouraged.
Prescription writing	1 – 2 pm	Students will be introduced to prescription writing as it relates to analgesics (non-regulated and regulated drugs)
Non-pharmacologic modalities	2 – 3 pm	Students will be introduced to non-pharmacologic analgesic modalities
Access UVLE Course	Self-paced	Students will continue with the online Modules.

**Day 4:**

<b>Objective:</b> Introduce students to special patient population (Elderly patient) Highlight biopsychosocial model and assess the student's social consciousness by engaging them in a Small Group Discussion on Barriers to Pain Management		
Elderly patient	8 – 10 am	Faculty from the Division of Orthopedic/General Surgery Anesthesia will deliver this lecture. If there is an elderly patient in the PACU, students will perform acute pain assessment after the lecture.
Pain clinic	10 am – 12 noon	Students will assess patients in the Pain Clinic.
SGD Barriers to Pain Management	2-3 hrs	Students will participate in a small group discussion identifying barriers and solution to pain management facilitated by a faculty member.
Access UVLE Course	Self-paced	Students will continue with the online Modules. Deadline of quizzes: Thursday 2300 H.

**Day 5:**

<b>Objective:</b> Synthesize learnings throughout the week.		
OSCE	8 am – 12 noon	There will be 10 stations with questions and variable number of rest stations to accommodate the class in one cycle.
CEBS/Overall feedback	12 noon	Students fill out the CEBS Informal feedback between students and faculty/resident coordinator

I. Instructional Design that indicates Outcome Based Activities and reflects Learning Outcomes to be achieved

Objectives	Topic	Content	LO	Teaching-Learning Activity	Resources/ Evaluation
1. Discuss pain in terms of its evolution and biopsychosocial dimensions.	Pain perspective through time Definition of pain Meaning of pain	<ul style="list-style-type: none"> <li>* Pain theories</li> <li>* IASP definition of pain</li> <li>* Biopsychosocial dimensions of pain</li> </ul>	LO 1,2,4,7,10  I	<ul style="list-style-type: none"> <li>* Lectures</li> <li>* Viewing of videos</li> <li>* Self-study</li> </ul>	<ul style="list-style-type: none"> <li>* FTF Lecture: Overview of Pain</li> <li>* UVLE access</li> <li>* Video lecture (module 1: Definition of Pain)</li> <li>* Video (The Meaning of Pain – Teal Swan)</li> <li>* SIM</li> <li>* <b>Quiz, OSCE</b></li> </ul>
2. Identify the components of the most common pain pathways.	Anatomy of pain	<ul style="list-style-type: none"> <li>* Pain pathways</li> </ul>	LO 1,2,4,7,10  I	<ul style="list-style-type: none"> <li>* Lecture</li> <li>* Viewing of videos</li> <li>* Self-study</li> </ul>	<ul style="list-style-type: none"> <li>* Video lecture (module 2: Anatomy of Pain)</li> <li>* Video:(PAIN! Physiology - The Ascending Pathway, Descending Pain Pathway and the Substantia Gelatinosa - Armando H.)</li> <li>* Video: (Nociceptors - An Introduction to Pain - Armando H.)</li> <li>* SIM</li> <li>* <b>Quiz, OSCE</b></li> </ul>

3.Understand how pain can be transmitted and modulated.	Physiology of nociception and modulation	<ul style="list-style-type: none"> <li>* Nociception</li> <li>* Pain modulation</li> </ul>	LO 1,2,4,7,10	<ul style="list-style-type: none"> <li>* Lecture</li> <li>* Viewing of videos</li> <li>* Self-study</li> </ul>	<ul style="list-style-type: none"> <li>* Video lecture (module 3: Physiology of nociception and modulation)</li> <li>* Video: (What is the Gate Control Theory of Pain - How Pain Perception Works - Corporis)</li> <li>* SIM</li> <li>* <b>Quiz, OSCE</b></li> </ul>
4.Differentiate acute and chronic pain.	Acute and chronic pain	<ul style="list-style-type: none"> <li>* Definition of acute and chronic pain</li> <li>* Physiologic and psychologic effects of acute and chronic pain</li> <li>* Transition from acute to chronic pain</li> </ul>	LO 1,2,4,7,10	<ul style="list-style-type: none"> <li>* Lectures</li> <li>* Viewing of videos</li> <li>* Self-study</li> <li>* Pain Clinic, Wards, OR, PACU Rotation</li> </ul>	<ul style="list-style-type: none"> <li>* FTF Lecture: Overview of Pain</li> <li>* Video lecture (module 4: Acute pain versus chronic pain)</li> <li>* Video: (Chronic Pain – Dr. J. Campbell)</li> <li>* Video: (Understanding pain in 5 minutes – Brainman)</li> <li>* SIM</li> <li>* <b>Quiz, exam, SGD/OSCE</b></li> </ul>
5.Differentiate the types of pain based on patho physiologic mechanisms.	Patho-physiologic mechanisms of pain	Definition, etiology, examples of <ul style="list-style-type: none"> <li>* Somatic</li> <li>* Visceral</li> <li>* Neuropathic</li> <li>* Psychogenic</li> </ul>	LO 1,2,4,7,10	<ul style="list-style-type: none"> <li>* Lecture</li> <li>* Viewing of videos</li> <li>* Self-study</li> </ul>	<ul style="list-style-type: none"> <li>* Video lecture (module 5: Patho-physiologic mechanisms of pain)</li> <li>* Video: (Abdominal Pain, Digestive</li> </ul>

				<ul style="list-style-type: none"> <li>* Pain Clinic, Wards, OR, PACU Rotation</li> </ul>	<p>System – Dr. Matt &amp; Dr. Mike)</p> <ul style="list-style-type: none"> <li>* Video: (Neuropathic pain- Dr.J.Campbell)</li> <li>* SIM</li> </ul> <p><b>Quiz, OSCE</b></p>
6. Assess pain using pain measurement scales	Pain assessment	<ul style="list-style-type: none"> <li>* Pain history taking</li> <li>* Pain scales/tools (self-report)</li> <li>* Pain scales/tools (behavioral)</li> <li>* Multidimensional pain assessment tools</li> </ul>	<p>LO 1,2,4,5, 6,7,8, 9, 10,11</p> <p>I, P</p>	<ul style="list-style-type: none"> <li>* Lecture</li> <li>* Viewing of videos</li> <li>* Practice exercises using FLACC</li> <li>* Self-study</li> <li>* Pain Clinic, Wards, OR, PACU Rotation</li> </ul>	<ul style="list-style-type: none"> <li>* FTF Lecture: Overview of Pain</li> <li>* Video lecture (module 6: Pain assessment)</li> <li>* Video: (Pain Clinic Patient Interview)</li> <li>* Video: (Pain Assessment using FLACC + exercises – Dr. Villa)</li> <li>* SIM</li> <li>* <b>Quiz, exam, OSCE</b></li> </ul>

7. Formulate a treatment plan using pharmacologic and non-pharmacologic modalities	Treatment of pain	<ul style="list-style-type: none"> <li>* Multimodal analgesia</li> <li>* Multidisciplinary pain management</li> <li>* WHO Pain Ladder</li> <li>* Pharmacologic Treatment</li> <li>* Non-pharmacologic Treatment</li> <li>* Pharmacogenomics</li> <li>* Interventional Pain Management</li> </ul>	LO 1,2,4,5,6,7,8,9,10,11 I, P	<ul style="list-style-type: none"> <li>* Lectures</li> <li>* Viewing of videos</li> <li>* Self-study</li> <li>* Pain Clinic, Wards, OR, PACU Rotation</li> </ul>	<ul style="list-style-type: none"> <li>* FTF Lecture: Overview of Pain</li> <li>* Video lecture (module 7: Treatment of Pain)</li> <li>* Video lecture: (Sonoanatomy and Regional anesthesia video)</li> <li>* Video lecture: Peripheral Nerve Block</li> <li>* Video lecture: Neuraxial Analgesia</li> <li>* Video lecture: Patient-Controlled Analgesia (PCA)</li> <li>* Video: (Pharmacology - NSAID's-Armando H.)</li> <li>* Video: (Aspirin and Prostaglandins - Medicurio)</li> <li>* Video: (Opioid Drugs, Part 1: Mechanism of Action -Medicurio)</li> <li>* Video: (Opioid Drugs, Part 2: Addiction and Overdose-Medicurio)</li> <li>* Video: (Pharmacogenomics: Genes and Medicine - Medicurio)</li> <li>* Video: (Acupuncture and moxibustion of traditional Chinese</li> </ul>
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					<p>medicine- UNESCO)</p> <ul style="list-style-type: none"> <li>* Video: (An Easy Way to Understand how Acupuncture Works to Heal the Body- Scott Martin Acupuncture)</li> <li>* Video: (Cognitive Behavioral Therapy (CBT) Simply Explained - Pinnacle of Man)</li> </ul>
		*		*	<ul style="list-style-type: none"> <li>* Video: (Meditation Addressing Pain- NCCIH)</li> <li>* Video: (Understanding Pain Brainman chooses- Brainman)</li> <li>* SIM</li> <li>* <b>Quiz, SGD, OSCE</b></li> </ul>

### III. Course/ Module Curriculum Map

Course Learning Outcome (CLO)	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
1. Discuss pain in terms of its evolution and biopsychosocial dimensions.	I	I		I			I			I	
2. Identify the components of the most common pain pathways.	I	I		I			I			I	
3. Understand how pain can be transmitted and modulated.	I	I		I			I			I	
4. Differentiate acute and chronic pain.	I	I		I			I			I	
5. Differentiate the types of pain based on patho physiologic mechanisms.	I	I		I			I			I	
6. Assess pain using pain measurement scales.	I P	I P		I P							
7. Formulate a treatment plan using pharmacologic and non-pharmacologic modalities.	I P	I P		I P							

#### LEARNING OUTCOMES:

L1: Clinical Competence

L2: Effective Communication Skills

L3: Leadership and Management

L4: Generation and Utilization of Relevant Knowledge

L5: Inter-professional practice

L6: System-based Approach to Health Care Practice

L7: Lifelong Personal & Professional Development

L8: Adherence to Professional and Ethical Standards

L9: Volunteerism, Nationalism, and Internationalism

L10: Advocacy for Social Equity and Social Accountability

L11: Effective Teaching and Organizational Skills

Introduced (I); Practiced with supervision (P); Demonstrated without supervision(D)

**IV. Evaluation:**

UVLE Quizzes	30%
SGD (EPM)	20%
Final Exam/OSCE	30%
Comprehensive Exam	10%
Attendance	<u>10%</u>
Total	100%

**SMALL GROUP DISCUSSION RUBRIC**

CRITERIA	3	2	1
<b>TEAM PREPARATION</b>	Group was well-prepared indicated by their mastery of the topic and ability to express meaningful foundational knowledge.	Group was fairly prepared. They were familiar with the topic but expressed limited foundational knowledge related to the topic.	Group was not prepared. They showed little to no knowledge of the topic and seemed confused with the topic.
<b>ENGAGEMENT/PARTICIPATION</b>	Group proactively contributed to the discussion.	Group contributed by responding to direct questions.	Group had to be probed to respond to direct questions.
<b>BARRIERS</b>	Fully and satisfactorily discussed	Partially discussed	Unsatisfactorily discussed
<b>IMPACT OF BARRIERS</b>	Fully and satisfactorily discussed	Partially discussed	Unsatisfactorily discussed
<b>PROPOSED SOLUTIONS</b>	Fully and satisfactorily discussed	Partially discussed	Unsatisfactorily discussed
<b>RELATIONSHIP BETWEEN BARRIER AND PROPOSED SOLUTION</b>	Fully and satisfactorily discussed	Partially discussed	Unsatisfactorily discussed
<b>OVERALL ASSESSMENT</b>	Comprehensive discussion	Adequate discussion	Weak discussion

Note: Students will be informed that the topic for discussion is “Barriers to Pain Management related to PATIENTS, DRUGS, HEALTHCARE WORKERS AND HEALTHCARE SYSTEM” on Monday morning. Students are expected to read on current events regarding these elements as they will be randomly assigned to different groups to discuss these elements on the actual session by the facilitator. This activity will be a synthesis of what they have learned during their 1-week rotation. The discussion will be facilitated by a faculty member on Thursday at 1 – 3 pm. No visual aids are required from the students

**Prepared by:**

**Evangeline K. Villa, MD, DPBA, FPSA**  
(0922-8749731, [ekvilla@up.edu.ph](mailto:ekvilla@up.edu.ph))

**Maria Dolma Gudez-Santos, MD, DPBA, DPBPM, FPSA**  
(0917-8519783, [mrgudezsantos@up.edu.ph](mailto:mrgudezsantos@up.edu.ph))

**LU 5 Coordinators**