

**ANESTH 250**  
**COURSE GUIDE AY 2023-2024**

**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.

This year, as the threat of COVID-19 has waned, the course will be taught through a blended-learning approach through online modules through the UVLE and face-to-face interactions between the students and faculty members by way of lectures, clinic and ward exposures, small group discussions, and student-reports. Students will be given opportunities to assess chronic pain patients in the Pain Clinic, Cancer Institute, and the PGH Wards. The students will be able to observe the conduct of peripheral nerve blocks for analgesia in the PGH Operating Rooms, and assess acute pain patients in the PGH Post Anesthesia Care Unit and PGH OPD-Recovery Room.

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.

**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. Nonpharmacologic management of pain

Additional Topics

1. Cancer pain
2. Noncancer pain

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

**DAY 1:**

<b>Objective:</b> Introduce students to the course content and faculty.		
Orientation	45 min – 1 hour	Faculty coordinator will give orientation. (questions regarding course, submission of requirements/outputs, etc. can be discussed)
Overview of Pain Lecture	2 hours	Pain Faculty of the week will deliver lecture and coordinate with students regarding activities for the week.
Access UVLE Course	Self-paced	Students will start the online Modules.

**DAY 2:**

<b>Objective:</b> Introduce students to the Pain Clinic, Sonoanatomy and Regional Analgesia.		
Video: Introduction to Pain Clinic and Pain Interview	1 hour	Students will view the video. The video features the history, goals, mission, and vision of the Pain Clinic, and an example of a Pain Interview
Video Lecture: Sonoanatomy and Regional Analgesia	1-2 hrs	This video is an introduction to Ultrasound as used for Regional Analgesia
Pain Clinic Rotation	2-3 hrs	Students will assess pain patients in the Pain Clinic.
RCB OR Rotation	2-3 hrs	Students will experience using UTZ and observe performance of Regional Analgesia.
Access UVLE Course	Self-paced	Students will continue with the online Modules.

**Day 3:**

<b>Objective:</b> Immerse students to Department of Anesthesiology Conference, Division of Pain Conference, and Patient Controlled Analgesia		
Department of Anesthesiology Conference	2 hrs	Students will attend and listen to the Dept. Conference
Division of Pain Conference	2 hrs	Students will attend and listen to the Division of Pain Conference
Video Lecture: PCA	1-2 hrs	This video is an introduction to PCA.
Ward Rotation	2-3 hrs	Students will experience making rounds on pain patients admitted in the Wards.
Access UVLE Course	Self-paced	Students will continue with the online Modules.

**Day 4:**

<b>Objective:</b> Introduce students to Neuraxial Analgesia and Peripheral Nerve Block		
Video Lecture: Neuraxial Analgesia	1-2 hrs	This video is an introduction to NA as used in pain management
Video Lecture: Peripheral Nerve Block	1-2 hrs	This video is an introduction to PNB as used in pain management
RCB OR Rotation	2-3 hrs	Students will observe conduct of Neuraxial Analgesia and Peripheral Nerve Block
Access UVLE Course	Self-paced	Students will continue with the online Modules.

**Day 5:**

<b>Objective:</b> Synthesize learnings throughout the week.		
Group report	2 hrs	Two groups will lecture on assigned group topic.
SGD	2 hrs	The whole block will discuss a case with a consultant
Final Exam with Feedback	2 hrs	Students will take a culmination exam.
Access UVLE Course	Self-paced	Students will complete the online Modules.

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

<b>Objectives</b>	<b>Topic</b>	<b>Content</b>	<b>LO</b>	<b>Teaching-Learning Activity</b>	<b>Resources/ Evaluation</b>
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  	<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>* Bonica’s Management of Pain 5<sup>th</sup> ed</li> <li>* <b>Quiz, exam</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  	<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>* Bonica’s Management of Pain 5<sup>th</sup> ed</li> <li>* <b>Quiz, exam</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>* Bonica's Management of Pain 5<sup>th</sup> ed</li> <li>* <b>Quiz, exam</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>* Bonica's Management of Pain 5<sup>th</sup> ed</li> <li>* <b>Quiz, exam, SGD</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> <li>* Bonica's Management of Pain 5<sup>th</sup> ed</li> </ul> <p><b>Quiz, exam, SGD, Group report</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>* Bonica's Management of Pain 5<sup>th</sup> ed</li> <li>* <b>Quiz, exam, SGD, Group report</b></li> </ul>

<p>7. Formulate a treatment plan using pharmacologic and non-pharmacologic modalities</p>	<p>Treatment of pain</p>	<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>	<p>LO 1,2,4,5,6,7,8,9,10,11  I, P</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>* Bonica's Management of Pain 5<sup>th</sup> ed</li> <li>* <b>Quiz, exam, SGD, Group report</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:**

Final Exam	30%
Quizzes	20%
Group Report	20%
SGD	10%
Comprehensive exam	10%
Attendance	<u>10%</u>
Total	100%

**GROUP REPORT RUBRIC**

CRITERIA	3	2	1
<b>DELIVERY: eye contact</b>	All group members maintained direct eye contact with the entire audience.	Most group members maintained direct eye contact with the entire audience.	Some group members maintained direct eye contact with the entire audience.
<b>DELIVERY: voice quality</b>	All group members spoke clearly with fluctuation in volume and inflection and were easy to understand.	Most group members spoke clearly with fluctuation in volume and inflection and were easy to understand.	Some group members spoke clearly or spoke in uneven volume with little or no inflection and/or are difficult to understand.
<b>DELIVERY: mastery of content</b>	All group members seldom looked at notes.	Most group members occasionally looked at notes.	Most group members read >50% from the notes.
<b>VISUAL AIDS: design</b>	Most slides were visually well designed. Text was clear, kept to a minimum and free from errors. Color and animations are used appropriately.	Some slides were visually well designed. Tended to be text-heavy. Some overused or inappropriately used color or animations.	Slides generally lack visual appeal and are text-heavy with little or no visuals and/or exhibit an overuse of color or animations.
<b>VISUAL AIDS: content</b>	Most slides reflected synthesis of reference material	Some slides reflected synthesis but mostly copied from reference material	Completely verbatim from reference material
<b>Q AND A PORTION</b>	Answered satisfactorily at least 90% of questions	Answered satisfactorily 51-89% of questions	Answered satisfactorily less than 50% of questions
<b>OVERALL ASSESSMENT</b>	Convincing presentation	Adequate presentation	Weak presentation

Note: Students will be given a pre-assigned chapter from Bonica Management of Pain 5th edition on Monday morning. The students are expected to synthesize the contents of said chapter and present it in a comprehensive manner using visual aids (Powerpoint slides) on Friday 8 am.

## 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 quite 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>DIAGNOSIS</b>	Diagnosis was accurate with discussion on how differentials were excluded	Diagnosis was accurate with unsatisfactory exclusion/no mention of differentials	Diagnosis was inaccurate and had no mention/discussion of differentials
<b>PATHOPHYSIOLOGY</b>	Fully and satisfactorily discussed	Partially discussed	Unsatisfactorily discussed
<b>DIAGNOSTICS</b>	Relevant diagnostics fully discussed	Relevant diagnostics partially discussed	Lacking and/or included irrelevant diagnostics
<b>THERAPEUTICS</b>	Pharmacologic, non-pharmacologic and applicable interventional procedures were fully discussed	Pharmacologic, non-pharmacologic and applicable interventional procedures were partially discussed	Pharmacologic, non-pharmacologic and applicable interventional procedures were unsatisfactorily discussed
<b>OVERALL ASSESSMENT</b>	Comprehensive discussion	Adequate discussion	Weak discussion

**Note:** Students will be given a one paragraph description of a theoretical index case patient on Monday morning. Students are expected to read on the diagnosis, pathophysiology, diagnostic approach and therapeutic approach of the index patient. This activity will be a synthesis of what they have learned during their 1-week rotation. The discussion will be facilitated by the assigned consultant of the week on Friday at 10 am. No visual aids are required from the students.

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