Stanford MEDICINE Comparative Medicine
School of Medicine

Cholawat Pacharinsak, DVM, PhD
cholawat@stanford.edu

The Good, The Bad and The Ugly - Neurobiology of Pain
COMPMED 89SS

Quarter: Summer 2026
Credits: 3
Course Coordinator: Cholawat Pacharinsak (Dr. P) DVM, PhD, DACVAA
Department of Comparative Medicine
Email: cholawat@stanford.edu
Office location: Research Animal Facility, Room AF067C
Office hours: By appointment
Course Teaching Assistant: Janis Atuk-Jones (janis@stanford.edu)
Class Time: **9 – 10:20 am Monday & Wednesday**
Class Location: Edwards 365

Course Objectives

This class will focus on understanding the basic neurobiology of pain pathways, and will include lectures on the physiology, pharmacology, and clinical aspects and variety of effective pain management from expertise in the field. Students will be introduced to and obtain a broad understanding of comparative neurobiology of pain. Although this class will be a lecture format, students are highly encouraged to participate in class discussions. Students may examine current scientific literature and lead discussions. In addition, laboratory tours will expose students to contemporary experimental methodologies (when possible). Guest lectures will highlight pain research from Stanford and other institutions. This course is appropriate for students wishing to understand basic comparative neurobiology pain mechanisms. At the completion of this course, students will have a basic understanding in comparative neurobiology of pain.

By the end of this course, students should be able to:

- Understand basic pain pathways
- Understand terminologies in pain research
- Understand different types of pain
- Understand pain recognition in animals
- Understand basic pharmacology in pain management
- Experience pain research at different settings

Reading Materials

Reading assignments (if any) will be posted on the “Canvas” website
Attendance 20%
Homework 40% **(due every Friday at noon; submitted on Canvas)**
Final exam 40%

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Attendance: Attendance is important component for this class. Unexcused absence may impact your overall grade.

Grading scale:

97-100=A+
94-96= A
90-93= A-
87-89= B+
84-86= B
80-83= B-
77-79= C+
74-76= C
70-73= C-
60-69= D
<59= F