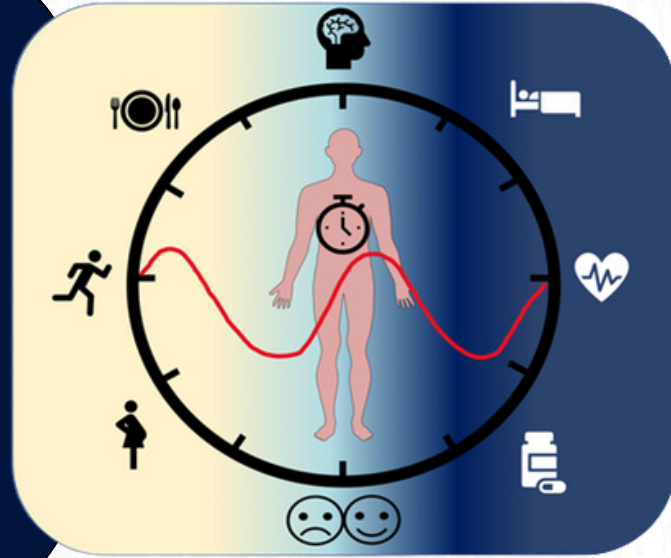


NEU233: CIRCADIAN RHYTHMS AND HEALTH

Coordinators:

Dr. Paula Desplats

Dr. Dorothy Sears



COURSE DESCRIPTION

Emerging evidence shows that **circadian rhythms** are negatively impacted by modern lifestyles that include shift-work, 24/7 access to food and services, and alterations in light exposure, sleep patterns and nutrition. The circadian clock regulates the expression of nearly 50% of the human transcriptome (in one tissue or another) and, thus, significantly affects physiology. Circadian biology modulates processes that impact disease risk, cognition and work performance, surgical outcomes, fertility and drug metabolism.

This class will cover basic principles of **circadian biology** and its relationship with a broad range of clinical outcomes. We will focus on both the molecular mechanisms and system/organism-level effects.

This is a **10-week elective pre-clerkship course** created to give medical, pharmacy, and Biology/Neuroscience graduate students knowledge about the role of circadian rhythms in health and provide them with the fundamental concepts to evaluate the impact of circadian alterations as human disease drivers. It is important for the next generation of scientists, physicians and pharmacists to understand circadian rhythms and to consider implementing circadian concept-based strategies in their future research design, patient care and health-oriented research.

As we unravel the mechanisms that govern circadian biology, lifestyle and drug therapeutic interventions that align circadian rhythms may soon become standards of health care.

Topics covered in the course include:

- Psychiatric mood disorders
- Sleep
- Rhythmic Data in Human Health
- Neurodegeneration
- Reproduction/ fertility
- Microbiome
- Food intake timing
- Shift-work and disease
- Inflammation

Fall Quarter 2024 (first class Oct 1st)

Tuesdays 2- 4 pm

BRFII room # 2104

Each meeting includes a lecture, paper presentation by students, and group discussion

Check out our class Canvas site

Contact

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