# Course Syllabus

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**PSY490F Human Chronobiology (Temporal biology)**

The fact that biological rhythms are a ubiquitous aspect of animal behaviour has become well known and accepted both within scientific circles and in the general populace. However, the ways in which rhythmicity is useful in determining the temporal program (timing) of physiological change and behaviour regulation are not well known. We know a lot about molecular circadian clocks, but less about other clocks, timers and resonators that contribute to optimal timing of physiological change and anticipation of future conditions. Some aspects of rhythmicity are innate while others are learned. Performance, sensory processing, memory formation, motivation, or emotionality, may be influenced by internal timekeeping in different ways. The synchronization of internal clocks and oscillators has an enormous effect on mental and physical performance, and this includes the rhythms of the gut microbiome. This course will look at these various ways in which rhythmic processes influence timing, and how they are integrated into the regulation daily temporal programs of physiology and behaviour in human beings.

# Course Summary:

| Date | Details | Due |
|---|---|---|
| Tue Sep 21, 2021 | Assignment 1. Chronotype: Morningness/eveningness, circadian entrainment, and the demands of society (https://q.utoronto.ca/courses/236810/assignments/698261) | due by 3:10pm |
| Tue Sep 28, 2021 | Assignment 2. Time Memory (https://q.utoronto.ca/courses/236810/assignments/698262) | due by 3:10pm |
| Tue Oct 5, 2021 | Assignment 3. Episodic memory (https://q.utoronto.ca/courses/236810/assignments/698263) | due by 3:10pm |
| Tue Oct 12, 2021 | Assignment 4. Theta rhythms and brain communication (https://q.utoronto.ca/courses/236810/assignments/698264) | due by 3:10pm |
| Tue Oct 19, 2021 | Assignment 5. Time perception (https://q.utoronto.ca/courses/236810/assignments/698265) | due by 3:10pm |
| Tue Oct 26, 2021 | Assignment 6. Sleep, memory, and hibernation (https://q.utoronto.ca/courses/236810/assignments/698267) | due by 3:10pm |

| Date | Details | Due |
|---|---|---|
| Tue Nov 2, 2021 | Assignment 7. Social Zeitgebers, social isolation, and COVID-19 (https://q.utoronto.ca/courses/236810/assignments/698266) | due by 3:10pm |
| Tue Nov 16, 2021 | Assignment 8. Metabolism, nutrition, food entrainment and the non-canonical biological clocks (https://q.utoronto.ca/courses/236810/assignments/698257) | due by 3:10pm |
| Tue Nov 23, 2021 | Assignment 9. Circadian disorganization and chronic disease (https://q.utoronto.ca/courses/236810/assignments/698258) | due by 3:10pm |
| Tue Nov 30, 2021 | Assignment 10. Circadian rhythms and neuropsychiatric disorders (https://q.utoronto.ca/courses/236810/assignments/698259) | due by 3:10pm |
| Tue Dec 7, 2021 | Assignment 11. Discussion: Ancient and modern roles of biological clocks and their evolutionary origins (https://q.utoronto.ca/courses/236810/assignments/698260) | due by 3:10pm |
| | Assignment 12: Final paper (https://q.utoronto.ca/courses/236810/assignments/698255) | due by 11:59pm |
| | Participation (https://q.utoronto.ca/courses/236810/assignments/698256) | due by 11:59pm |