Curiosity is thought to be essential for creative thinking and discovery. Samuel Johnson called it “the thirst of the soul.” Albert Einstein noted that: “Curiosity and creativity are intelligence having fun." Eleanor Roosevelt said: “I think, at a child’s birth, if a mother could ask a fairy godmother to endow it with the most useful gift, that gift would be curiosity.” William Arthur Ward called it "the wick in the candle of learning." And Sam Altman, more prosaically, noted that "it is very hard to do good work without being optimistic, exceptionally determined, and intellectually curious." But despite the obvious importance of curiosity, it is a relatively new area of study. Only recently has significant progress has been made on defining, understanding and delimiting what curiosity is, on determining what its neural correlates might be, on detailing factors that stimulate or thwart it, and on investigating what its consequences are for learning, memory, and human creativity. The field is both stimulating and frustrating. Virtually every hypothesis about curiosity is contentious. At the same time, the intense current interest in the field, coupled with the lack of rigidly codified and accepted knowledge and well articulated accepted theory, provides the opportunity for a dedicated, thoughtful student investigator to potentially make important and lasting contributions about the nature, use, and consequences of this underexplored concept.

Structure of the course and grading: In this seminar we will discuss and debate the major topics and positions associated with curiosity, as indicated in the schedule below. Every week, 2 students (in consultation with Professor Metcalfe) will be responsible for the final choice of readings that all students will do, and formulating the related questions and issues that will be the topics of discussion. Every student will be a discussion leader twice, with each comprising 25% of the grade (for a total of 50% of the grade). 25% of the grade will be allocated for in class participation when the student is not the discussion leader. And, finally there will be a 10 page paper (beautifully written, of course, in APA style) on some important aspect of curiosity. This needs to be a scientifically-based paper and will offer new insights into the topic. The paper is due on the last day of class, and will make up the remaining 25% of the grade. AI assistance of any sort on this paper is strictly forbidden.

Suggested readings have been uploaded for each week, under 'files' on canvas, but these are suggestions only (and a variety of other papers on curiosity are also included under 'other' for your perusal). Each week the required readings, that will be discuss in the next session will be determined b y Thursday night, and designated in the appropriate file, with other readings that you might also want to take a look at being labelled as optional. Professor Metcalfe' s office hour will be Tuesday at 10:30-11:30 am in 401B Schermerhorn. There can also be consultation on Wednesdays immediately after class as long as there is no colloquium that day (or by appointment).

**Schedule:**

Week 1 : Introduction
Week 2: Seminal work of Berlyne and overview of the field.
Week 3: Gap theory; Intrinsic motivation
Week 4: Classic empirical works on epistemic and perceptual curiosity
Week 5. Curiosity & learning
Week 6: Region of Proximal Learning and Curiosity.
Week 7: The Curious Personality
Week 8: Reinforcement Learning and Prediction Error
Week 9: Explore Exploit
Week 10: Risky behavior and Curiosity
Week 11: Curiosity and Education
Week 12: Play
Week 13: Transformative thinking: Scientific curiosity
Week 14: AI and human curiosity