



Middlebury

Susan Watson

Professor of Physics

Department of Physics

swatson@middlebury.edu

July 2025

Greetings, Alumni College Students!

Over the span of four brief days at the end of summer, we will attempt to do something special: create a close-knit academic community intent on exploring a topic in depth, fueled by our curiosity. If we are successful, we will feel comfortable grappling with unfamiliar ideas and sharing insights to build collective knowledge. We will also have fun, because why learn anything if we're not having fun? Given the range of backgrounds we'll likely bring to our discussions, some patience—for ourselves and others—will come in handy.

Our topic is time. What methods have humans devised to measure time? I will guide you through the underlying science, from astronomical clocks to water clocks, mechanical clocks, and atomic clocks. Time permitting, we'll throw in a dose of Einstein's special theory of relativity for good measure. But the measurement of time is fundamentally a social endeavor as well as a scientific one, and we will explore that aspect as well. My hope is that the two perspectives will give everyone a voice in the conversation.

Between now and August 28, you have homework to complete. Please read *A Brief History of Timekeeping* by Chad Orzel and *About Time—A History of Civilization in Twelve Clocks* by David Rooney. The former delves into the science of timekeeping, while the latter focuses on the societal implications. As you read the books, note questions and insights that arise for you. What surprises you? What confuses you? What makes you curious to learn more? What assumptions would you challenge? What organizing principles would you choose if you were to write your own book on time? You have one additional assignment aimed at feeding our collective curiosity: be ready to share the names of one or two books—not necessarily related to science—that have shifted your views or impacted you in some fundamental way.

I look forward to meeting you in one or so cycles of the moon.

Susan Watson
Professor of Physics
Middlebury College