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Daniel E. Otero* (otero@xavier.xu.edu), Department of Mathematics & Computer Science, Xavier University, 3800 Victory Parkway, Cincinnati, OH 45207-4441. *A New Course for Liberal Arts Math: the Mathematics of Calendars and Timekeeping.*

In an effort to provide ever more variety for how students explore mathematics in a liberal arts context, the author has experimented with a new course called The Mathematics of Calendars and Timekeeping. In this course, the history and science of timekeeping provide an environment in which mathematics is used in various ways to help organize time and its natural cycles for the benefit of societies, both ancient and modern. The clock and the calendar are familiar devices to everyone today, but few realize the mathematics that . . . makes them tick! The mathematical topics in the course – most of which are new to the typical undergraduate student but technically unsophisticated nonetheless – include: comparison of decimal, sexagesimal and vigesimal numerations; elements of plane and spherical trigonometry; continued fractions as rational approximations to real numbers; the Division and Euclidean algorithms; congruence arithmetic. Much of the history of world calendars, basic planetary astronomy, and the philosophy of time is incorporated, to put the mathematical ideas in context. (Received September 17, 2009)