

## COURSE PHILOSOPHY

### AS A DISTRIBUTION REQUIREMENT

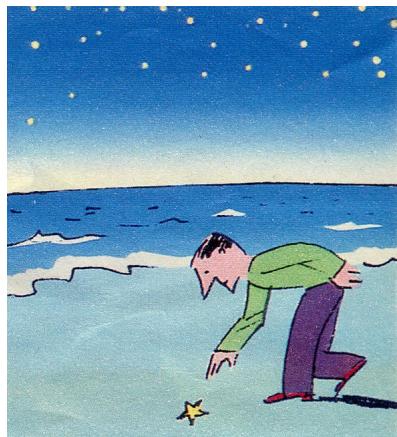
Astronomy is intended for students not majoring in science. It fulfills a distribution requirement. This means that besides having no pre-requisites, it must fulfill the rationale and definitions agreed upon by the St. Lawrence University faculty in the fall of 2012<sup>1</sup>:

4. Natural Science with Lab (NSM-L): Courses have primary learning goals in which students develop:

- a. an understanding of the physical, chemical, biological, and/ or behavioral phenomena of the natural world and, insofar as possible, an ability to relate them to everyday experience; and
- b. a theoretical and quantitative understanding of the processes underlying the physical, chemical, biological, and/ or behavioral phenomena of the natural world; and
- c. an understanding of how scientific knowledge of the natural world is obtained and revised through hypothesis testing using experimental and/ or observational methodologies.

In addition, Natural Science Lab Courses are required to include a regularly scheduled laboratory component that meets weekly for at least 90 minutes, in which students have the opportunity to examine phenomena of the natural world using experimental and/ or observational methods.

### AS A.O'D'S COURSE



Every course I teach is an opportunity to stir students' sense of wonder and to broaden the way they see the universe. This universe (the only one I'm aware of having lived in) is an amazingly elegant and wondrous place. The Earth, which all of us are used to, is a strikingly unique place in this magnificent universe where liquid water falls from the sky, life strives to fill every crevice and landscape, and some creatures look up to the sky in wonder.

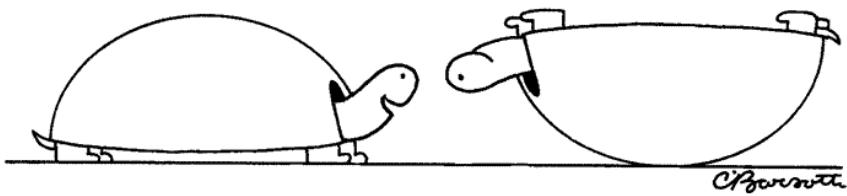
In *Introduction to Astronomy*, I strive not just to give students a glimpse of the universe and the scientific work of learning to understand its processes, but to give them a familiarity and appreciation for the sky that will fuel a life-long interest in astronomy and observing. This effort is emphasized by the requirements of independent, naked-eye observation throughout the semester. A significant portion of the

course and lab are dedicated to the cycles of the sky that can be followed and predicted through use of field guides and periodical publications.

By looking closely at the sky and the phenomena that surround us on Earth ... keys falling to the ground and sunlight glinting off hot desert roads ... we humans have learned the processes that govern the distant wonders of galactic rotation, stellar explosions, and the still mysterious world of quantum foam thought to exist in the centers of black holes.<sup>2</sup> In my courses I strive to give students some knowledge and understanding of what people before them have learned and a sense of their own place and capacity for contribution to the humanity's continued learning about the universe.

<sup>1</sup> Curriculum Revisions, Part II passed on 5/18/99, copies available in the Registrar's office.

<sup>2</sup> Kip Thorne, 1994 Black Holes & Time Warps: Einstein's Outrageous Legacy, The Commonwealth Fund Book Program of W. W. Norton & Company, New York



*“Wow, I’ve never met an astronomer before.”*

## EXPECTATIONS

As your professor, I endeavor to make every class engaging and informative, utilizing all the resources available. Unless I am seriously ill or have unavoidable travel, I will be at every class prepared to lead you on an intellectual journey to the planets, stars and beyond. On every task and assignment, I will do all humanly possible to help you succeed and understand.

Since you’ve expressed interest in astronomy by signing up for the class, I expect you to be open to exploring the universe and willing to participate fully in activities designed to engage you in that exploration. This requires you to come to every class during the semester and remain in class for the full time unless you are ill. **We will go no longer than one hour without a break, so you should not have to leave class at times other than the breaks.**

Participating fully in class requires you to be an active learner, that is, I expect you to take notes, by hand during lectures. The Power Point presentations will be available before class. You may print them out and take notes on them or on separate paper. You don’t need to write down every piece of information (you can access the Power Points after class to get details you miss), but you need to write down the big ideas and information from what I say as well as what is on the slides. Passively listening to the lectures will not lead to success in this course.

Modern science, particularly astronomy that utilizes large multi-national instruments, is a collaborative human activity. To model this for those of you in what may be your last science class, almost all of our activities are collaborative. The lab exercises you will do and even the exams have collaborative sections. Though all the words you write on them must be your own<sup>3</sup>, you will discuss the ideas with your peers. **In order for everyone in the class to be fully invested, it is not an option to take the course pass-fail.**

Astronomers utilize the wonderful tools of mathematics and physics to cast our minds across vast distances exploring details of cosmic objects impossible to access with any other tools. To participate, you may need to use your mind in unfamiliar and, perhaps, uncomfortable ways. I expect you to do this with patience and good humor as I will do all I can to make it as pleasant and rewarding as possible.

I look forward to this cosmic journey with you.



<sup>3</sup> Writing words, calculations, or data that are not your own constitutes academic dishonesty. Review the [Constitution of the St. Lawrence University Academic Honor Council](#) that includes the honor code you signed at your First -Year Convocation.