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7-1-2019

1 Fire & Ice Orientation

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Recommended Citation

Bauer, Christopher F., "1 Fire & Ice Orientation" (2019). *Information for Users*. 2.
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Welcome to *WINDOWS on the INQUIRY CLASSROOM*
and to the University of New Hampshire course *Fire & Ice*

updated July 1, 2019

WINDOWS is a National Science Foundation Project (DUE-1245730)* directed by Professor Christopher Bauer of the Chemistry Department of the University of New Hampshire.

The project is a comprehensive documentation of an inquiry-based course *Fire & Ice*, a college-level interdisciplinary exploration of the nature of heat, temperature, and energy (UNH Chem 444). The door to this classroom is open for visits and observations at any time. All 27 class sessions are captured on video in 10-minute segments from four angles, including instructor and student teams. All course documents are also available: daily agenda, student team instructions and work products (written and posters), and hands-on activity procedures.

You can think of it as a reality-TV college science course (without the drama). The videos show the classroom action. But there are behind-the-curtain stories: instructor giving short previews and debriefing for each class, graduate interns reviewing every class, student focus groups, videos and documents about the course design process and rationale.

Through a hands-on inquiry-driven structure, the course covers the perception, movement, creation, understanding, and use of heat, and underlying principles from biology, chemistry, engineering, physics, and physiology. We retrace the historical development of the concepts of heat and temperature by readings original literature from the 17th through 19th centuries.

This is a real classroom with instructor and students facing real learning challenges. It is not a staged demonstration of any particular approach, other than to be this author's interpretation of what it means to engage in inquiry-based pedagogy. Visitors might discover better ways to structure any aspect of the course. And that's the point of having this record. You can:

- Send a colleague to this course to see what "inquiry instruction" looks like
- Assess how students react to an inquiry instructional environment
- Listen to what the instructor is thinking, watch what occurs, and compare your perceptions with those of the instructor during a debriefing
- Listen and watch four graduate teaching interns develop though the semester to be able to present their own class sessions
- Listen to students as they work their way through activities and try to make sense of phenomena in terms of scientific models

Fire & Ice is a pedagogical field site. You can enter the site from different directions and you can take different perspectives as you observe the action. Like a biological field site, it is a rich environment to explore. You will need some guidance to do that. Follow the links to "How the documentation is organized" first, and then to "Types of documentation found".

*This material is based upon work supported by the National Science Foundation under Grant No. 1245730. Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

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