

CASE STUDY

# Knovel<sup>®</sup>

University of Arkansas

## Training the next generation of engineers and scientists



### SUMMARY

For library staff, faculty members and students of the University of Arkansas, Knovel is a reliable, quality resource that supports preparing for future engineering and research careers.

**“Unlike web search engines, Knovel always finds information from reliable technical resources... you don’t have to pore through... questionable options.”**

— Patricia Kirkwood at University of Arkansas

#### THE KNOVEL ACADEMIC CHALLENGE

Launched in 2007 as part of a larger program called Knovel in the classroom, the Knovel Academic Challenge is focused on providing professors, librarians and other teaching professionals the tools they need to arm engineering and science students with the skills needed to enter into the workplace. In support of academic programs, Knovel also sponsors the Solar Decathlon and the Human Powered Vehicle Challenge.

As Engineering and Mathematics Librarian and associate professor at the University of Arkansas, Fayetteville, Patricia Kirkwood has the job of introducing students to the quality resources they need to support their course study and future research. One way Kirkwood accomplishes this is by teaching her students to use Knovel.

Actually, she doesn’t just teach her students to use Knovel, she’s influenced professors of the 600-student freshmen engineering program to require it. Faculty in the freshman program wanted to expose students to good resources. The first attempt was to have students write a paper and cite good resources. That was too complicated and too much work for a one-credit course (for the librarian, the instructors and the students). This year faculty agreed on the Knovel Challenge because it was a reasonable amount of work, exposed students to the idea that good resources are not difficult to find if you know where to look, and allowed for relatively easy grading.

#### **Challenging students to search and solve problems**

Launched in 2007, the Knovel Academic Challenge compels students to structure technical searches using Knovel in their efforts to find answers that solve a set of three randomized problems from various engineering disciplines. In the process, this next generation of engineers receives enhanced training, hands-on learning experiences, problem-solving skills and the chance to win various prizes. But it is likely something else that most motivates students to take part—according to Kirkwood, participation in the Knovel Academic Challenge and other library programs earns students “three percent of their grade.”

#### **Finding reliable information fast**

Students may know how to search the web. “But,” says Kirkwood, “I’m using the Challenge to promote quality resources without doing a generic web search. We want them to learn how to use high quality resources and the Knovel Challenge shows them that that’s easier than expected. “Unlike web search engines, Knovel searches always find data and information from reliable technical resources. “You don’t have to pore through a page of questionable options,” making it, in the librarian’s words, “a more time effective way to get good results. Students tell me using Knovel is a much quicker way to find something they can cite in their papers. They are surprised at the amount of information available.”

As a trained scientist herself (Kirkwood has an undergraduate degree in Chemistry as well as a graduate degree in Library Science), the University of Arkansas librarian knows how important the skills she’s helping her students develop will be in their future careers. She wants them to learn to use trusted sources, which is why she promotes Knovel.

“The only way to get it [Knovel] used is to require the students to use it in a meaningful way so they get familiar with it. Then they’re likely to use it when they need it later on for lab work or research.”



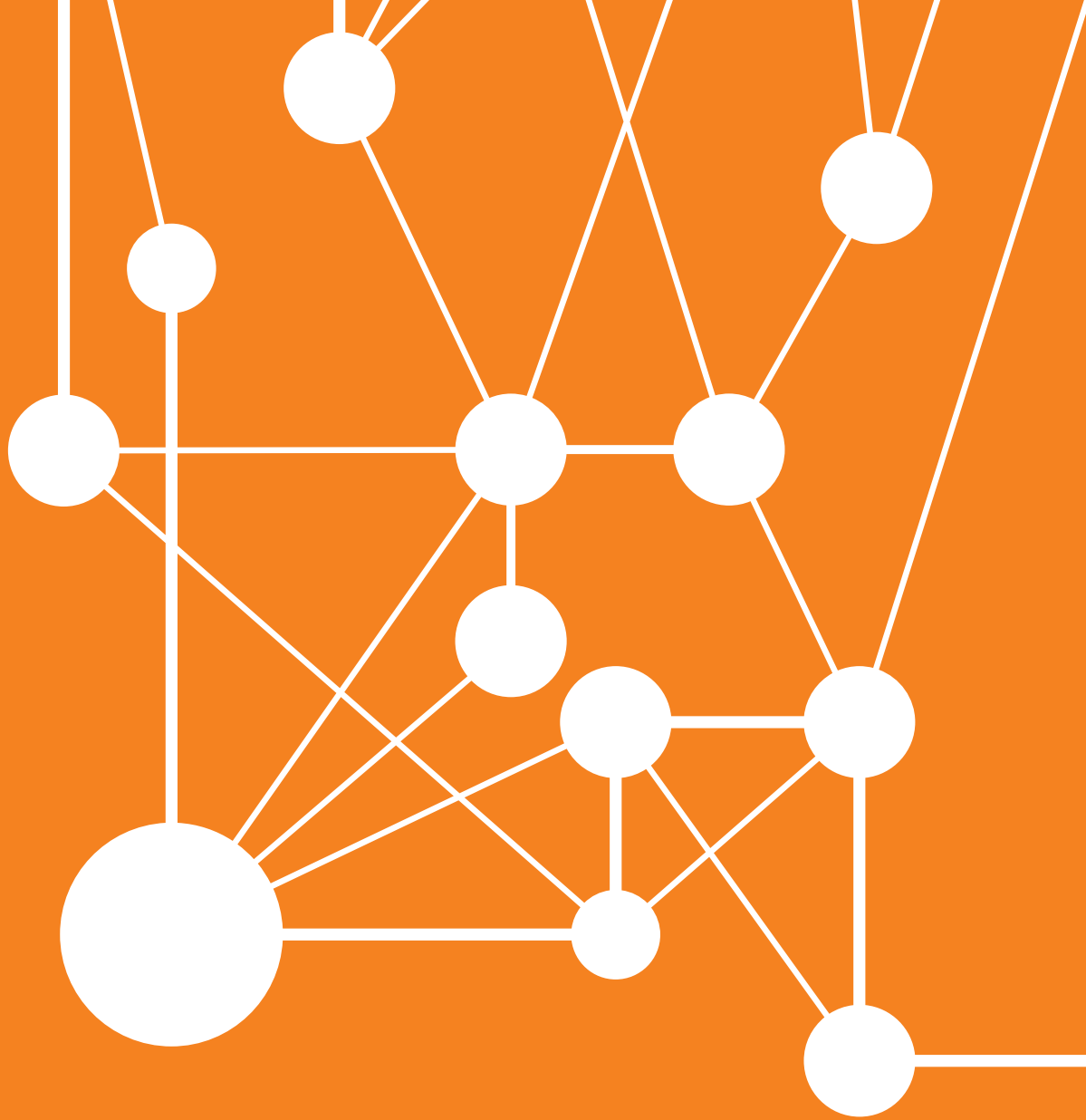
Kirkwood is grateful to the faculty at the University of Arkansas for being supportive of her goal to teach students how to properly research and document their work. “I’m just really pleased with the faculty,” she says, “that we can do this. Though the engineering program has always supported appropriate information instruction as relating to ABET goals, it is difficult to find an assignment that fits the level of a freshman’s engineering know-how and can be handled by graduate assistants that manage the large classes. This first year of using the Challenge as a graded assignment will hopefully go well and be something we can rely on in future years for a quality information related assignment.”

#### **Developing real-world skills**

Kirkwood’s strategy for requiring freshmen engineering students to participate in the Challenge is that the exercise exposes them to literature research skills necessary not only to complete their academic careers but as a method to find answers to real world problems that they meet in their internships and after they graduate. “Use of resources is directly related to early exposure,” she says. “With Knovel, students can find results to technical questions they can trust and cite.”

The results are tremendous. Year after year, students from the University of Arkansas is a top player and formidable competitor for the Knovel Academic challenge, with hundreds of students playing and creating user profiles to help them organize and save searches for future projects.

Knovel celebrates Librarian Patricia Kirkwood and her goal of training the next generation of engineers both for work in this country and the world at large.



## LEARN MORE

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