



Top-ranked Higher Ed Programs Groom Tomorrow's MIS experts using Open Source Business Intelligence.

Since pioneering one of the nation's first Management Information Systems (MIS) curriculums three decades ago, the Eller College of Management's MIS Department at The University of Arizona has become a leader in IT education and research. For more than 20 consecutive years, U.S. News & World Report has ranked the school's MIS program among the top five in the United States.

A distinguished faculty regularly wins research and teaching awards, while the school vigorously pursues grant-funded basic and applied research—and educates more than 5,000 undergraduate, graduate and doctoral students.

Ever aware of evolving technology and business trends, the school focuses on producing MIS professionals who can use information technology to strategically keep organizations competitive, proactively manage the IT solutions chosen, and adopt advanced information technologies in newer applications.

Real-world learning through theory, principles and application

The department offers Masters, Bachelors, as well as PhD programs, and currently houses approximately 550 students. In the popular Masters program, students can specialize (and pursue internships) in Security, Business Intelligence, or general MIS; of these, Business Intelligence (BI) is the runaway favorite among students, who learn and apply BI techniques and tools in four of the 12 courses that make up the degree. These BI-focused courses include:

- Enterprise Data Management (database application design and development)
- Web Mining (Search engine and Web data analysis)
- Business Intelligence and Web Analytics (data warehouse, online analytical processing, and predictive analytics focused on web data and social media)
- Data Mining (clustering, classification, association, rules mining and other statistical techniques)

The highly regarded effectiveness of these courses lies in a powerful combination of theory, principles, and applied techniques using real-world tools. Dr. Sudha Ram, the Eller School's McClelland Professor of MIS and Director of the school's "INSITE: Center for Business Intelligence and Analytics" and the Advanced Database Research Group elaborates: "In our

CASE STUDY

program, we do research in the same areas we teach. and this interaction between teaching and research is a key strength of our program. We strongly believe that students need to learn theory and techniques, and practical application is critical.”

The educational value of hands-on BI projects

A look at a Masters program’s second-term class curriculum illustrates the program’s applied focus. After a study of BI measurement, metrics, and performance management techniques, students explore a range of data collection and analysis methods by developing and analyzing an online search engine advertising campaign for a local small business.

Data, collected from the campaign tracking engine as well as social media sources, is stored and analyzed in a database the students themselves must design. Students learn how to use application program interfaces (APIs) for data collection, then profile and cleanse the data.

In another assignment, students create new data warehouses for a pair of extensive case study assignments—a one focused on healthcare, the other on airport operations—then build dashboards and OLAP-based analyses to monitor metrics that they must define.

“Part of the power of these assignments is their subject matter,” says Ram. “Students get saturated with textbook examples and problems based on Sales or Finance functions. Focusing on a hospital and its patients, or on aircraft utilization in an airline environment, forces them to really analyze and understand different and more challenging business scenarios.”

But finding unique, effective ways to understand a problem is just part of the learning process. The students also use real-world tools, both proprietary and open source, to implement data collection and cleansing, design and develop data marts, and create reporting, dashboarding and analysis applications.

Open source and proprietary tools: a matter of choice

Proprietary tools from Oracle have long been used for these projects by both faculty and students in the department. But in more recent years, the department’s applied research efforts have encountered increased use of open source tools within real-world enterprises.

“We know that the recruiters who come to talk to our students look for a range of qualifications,” explains Ram. “Yes, they want their interns and new-hires to understand principles and techniques. But they also place a lot of value on experience with specific tools, or in specific functional areas.”

Ram points out that recruiters also like to see experience with multiple tools in a discipline such as data cleansing, reporting and analysis. A student's demonstrated ability to work with different tools illustrates a good understanding of the underlying principles and techniques—and an aptitude for learning whatever new tools become available in the future.

"As a philosophy, we like to let students choose which specific tools they want to use—we're pretty agnostic about them," Ram continues. "We try to expose them to many different software tools, open source and commercial, explain how they accomplish their goals, plus the pros and cons. Then we let students choose based on look-and-feel, feature set, or career aspirations." This approach also shows students the value of matching a tool to the specific need—something they will want to do once they move into the workplace.

To help both faculty and students assess for themselves the value of open source software solutions, Jaspersoft has provided its full suite of BI solutions to the University without charge, under the Jaspersoft Scholars Program- an educational license that stipulates the software cannot be used for commercial purposes. For the two in-depth BI case studies, students typically use Oracle tools for one and Jaspersoft tools for the other.

"The students seem to like playing around with open source tools a lot," says Ram. "When they go to internships, they often see that organizations out there are using both commercial and open source tools—so it's good for us to prepare them for that reality."

Benefits of Using Jaspersoft's Open Source BI Technology

Ram reports that students appreciate the opportunity to work with multiple BI environments. "When they arrive, they expect to see commercial tools. When they see the open source platforms as well, they learn that these platforms are usually quite comparable. It's a valuable lesson."

Working with the Jaspersoft BI suite, students walk away with a number of advantages. Using Jaspersoft's iReport Designer to define operational reports and JasperAnalysis to create OLAP solutions, for example, students learn when to apply traditional, SQL-based tools and when to use OLAP. The practical experience lets them give real-world examples to recruiters.

"We've found that practical application of multiple toolsets makes students more attractive to recruiters," says Ram. "We've also seen recruiters from certain industries pursue our students because of their relevant case study experience."

Knowing how the technologies are used in real-world enterprises is critical to the success of the program, Ram concludes. "We try to do a lot of research in the same areas we teach, then let students simulate some of the same experiences. Having state-of-the-industry tools on hand for them to use is also essential. We're very pleased that providers like Jaspersoft have made them available to us and our students."

About Jaspersoft

Jaspersoft provides the most flexible, cost effective and widely deployed Business Intelligence suite in the world, enabling better decision making through highly interactive, web-based reports, dashboards and analysis. Leveraging a commercial open source business model, Jaspersoft provides end-to-end BI capabilities at a fraction of the cost of other vendors. The BI suite includes pixel-perfect enterprise reporting, ad hoc query, dashboards, OLAP and in-memory analysis, and data integration. Jaspersoft is the only BI vendor that enables companies to adapt to the new, virtualized world by providing a complete spectrum of on-premise, multi-tenant SaaS and cloud-based deployment options for both embedded and standalone business intelligence. Unlike traditional BI vendors, Jaspersoft is built on a modern, lightweight, standards-based architecture and offers greater vendor independence thanks to its open source codebase. Unlike niche BI vendors, Jaspersoft represents a safe choice with tens of thousands of production deployments across a wide range of industries.

Jaspersoft's open source business intelligence software has more than 13 million product downloads worldwide, 160,000 production deployments and over 14,000 commercial customers in 100 countries. Its BI suite is advanced regularly by a development community of more than 200,000 registered members. For more information visit: <http://www.jaspersoft.com> and <http://www.jasperforge.org>.

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