Corporations worldwide have focused on improving business processes for the past two decades. In fact, while most Fortune 500 companies have already adopted Enterprise Resource Planning (ERP) systems, now many midsize companies are also planning ERP implementations.

With a commitment to keep pace with these changes in business processes and technology, the University of Missouri system joined SAP’s University Alliance and Microsoft's University Alliance programs in order to continue and expand classroom capabilities for integrating ERP software into the curriculum. ERP systems can be used to reinforce many of the concepts covered in the business discipline. ERP systems incorporate state-of-the-art technology, providing a comprehensive teaching tool for business and for information systems. Universities that have successfully incorporated an ERP system into their curricula found unprecedented student demand for those subjects. ERP can be viewed as a combination of business management practice and technology, where Information Technology integrates with a company's core business processes to enable the achievement of specific business objectives. This Graduate Certificate in Enterprise Resource Planning prepares students for positions as both technical and business consultants in the ERP field.

Admission requirements

Prospective students may apply at any time by completing the Graduate Application for Admission found online at apply.mst.edu.

The graduate certificate program is open to all individuals holding a bachelor’s, master’s or Ph.D. degree in areas such as business, social sciences, technology, engineering, or related disciplines. Students must also have the required prerequisites for the courses in the program.

In order to receive a Graduate Certificate, the student must have an average graduate cumulative grade point of 3.0 or better on a 4.0 scale in the certificate courses taken. Students admitted only to the certificate program will have non-degree graduate status but will earn graduate credit for the courses they complete. Students will be given three years to complete the certificate as long as a B or better average is maintained in the courses taken.

If a student completes the four graduate certificate courses with a grade of B or better in each of the courses taken, the student will, upon application, be admitted to the Master of Business Administration or to the Master of Science in Information Science and Technology. The certificate courses taken by students admitted to the program will count toward the student's MBA or M.S. degree.
COURSE DESCRIPTIONS

REQUIRED CORE COURSES

ERP 5110 Enterprise Resource Planning Systems Design and Implementation
This course provides a technical overview of Enterprise Resource Planning Systems and their impact on organizations. SAP is introduced to illustrate the concepts, fundamentals, framework, general information technology context, technological infrastructure, and integration of business enterprise-wide applications.
Prerequisites: Preceded or accompanied by ERP 2110; or Graduate Standing and computer programming knowledge.

ERP 6120 Enterprise Resource Planning Systems Config and Integration
Implementation and design practices for business processes in Enterprise Resource Planning (ERP) systems. The course will examine and apply techniques used in SAP ERP system for system configuration and integration, with a focus on Financial Accounting, logistics, Controlling, and production.
Prerequisite: ERP 5110.

ERP 5130 ERP in Small & Mid-Size Enterprises
Provides an overview of enterprise applications for small and midsize companies. A leading platform such as Microsoft Dynamics AX or SAP Business One is introduced to illustrate theories and practical enterprise-wide applications for entrepreneurs, who manage business functions across sales, operation, and financials, all in a single integrated system.
Prerequisites: ERP 5110 or ERP 2110.

ERP 5210 Performance Dashboard, Scorecard & Visualization
This course will study different performance management systems including dashboards, management cockpit, scorecards, and strategy maps in an organization. SAP’s BW, Business Objects Xcelsius, Crystal Reports, Sybase Unwired Platform will be used to develop the applications.
Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110.

ERP 5240 Application Development and Software Security
This course provides a conceptual foundation and hands on experience in web and mobile based (HTML5) applications development deployed through an enterprise platform. Enterprise development tools, such as SAP HANA Cloud Platform, will be used to build these apps. The course also covers software cybersecurity from a web and mobile perspective.
Prerequisites: Programming knowledge and either ERP 2110 or accompanied by ERP 5110.

ERP 5310 Supply Chain in ERP
The course studies the need for supply chain integration and the challenges of managing complex interfaces using the systems approach for the planning, analysis, design, development, and evaluation of supply chain. SAP’s ERP ECC, SCM, BW, and Sybase Unwired Platform are used to deploy SCM apps.
Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110.

ERP 5410 Use of Business Intelligence
This course introduces data-oriented techniques for business intelligence. Topics include Business Intelligence architecture, Business Analytics, and Enterprise Reporting. SAP Business Information Warehouse, Business Objects, or similar tools will be used to access and present data, generate reports, and perform analysis.
Prerequisites: IS&T 1750 or equivalent.

ELECTIVE COURSES (CHOOSE TWO)

ERP 5510 ERP System Administration
System administration and performance monitoring practices for an Enterprise Resource Planning (ERP) system will be studied. Students will install an instance of an ERP system and establish user management attributes and system security.
Prerequisite: ERP 5110.

ERP 6220 Data Modeling and Dashboard Prototyping
Study how to integrate data modeling and visualization prototyping in design and implementation of enterprise decision dashboards for descriptive, predictive, and prescriptive analytics. Assignments and project implementations use SAP HANA & BW, Design Studio, IBM Watson, and SAS Visual Analytics. Semester project prepared.
Prerequisite: ERP 5110 and one of ERP 5410, ERP 6444, or IS&T 6444.

ERP 6444 Essentials of Data Warehouses
This course presents the topic of data warehouses and the value to the organization. It takes the student from the database platform to structuring a data warehouse environment. Focus is placed on simplicity and addressing the user community needs. (Co-listed with IS&T 6444)
Prerequisite: IS&T 5423 or equivalent relational database experience.

ERP 6610 Adv Customer Relationship Mgt ERP
The course emphasizes identification (targeting), acquisition, retention, and development (expansion) of (profitable) customers, as well as effective and efficient management of customers, using IT. SAP CRM, SAS BI tools, and mobile application development are used to illustrate concepts in the class. Research paper and presentation required.
Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110.