

Enterprise Resource Planning

Home Courses & Certificates People Industry Partners Students in Action Research Resources About ERP

Run systems that run the world.

Enterprise Resource Planning (ERP) integrates key concepts in business, technology, and data analysis to power companies worldwide. As an ERP professional, you can play a leading role in improving organizational operations, streamlining supply chains, and enabling smarter, data-driven decisions across global enterprises.

The ERP program combines coursework in business and technology with hands-on learning using industry leading software and real-world applications such as SAP and Microsoft Dynamics 360. With a majority of Fortune 500 companies relying on ERP systems,

SAP University Alliances



<https://erp.mst.edu>

erp@mst.edu

Current Course Schedule

<https://tinyurl.com/ScheduleERP>



Sample course syllabi

<http://tinyurl.com/erpClass>



Course Descriptions, Offerings & Software

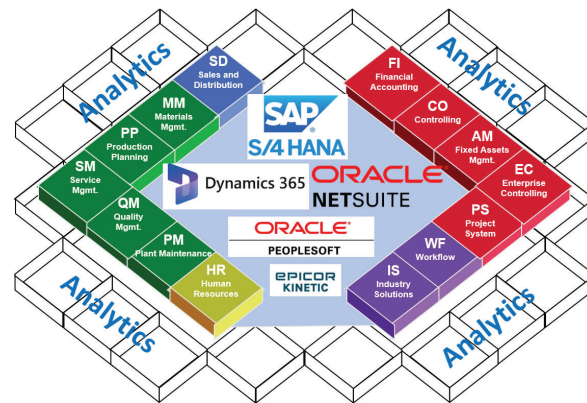
<https://tinyurl.com/ERPmap>



Enterprise Resource Planning (ERP) ...

An umbrella term for a **very complex** computer software solution that controls

ALL parts of your Business in one software



An integrated ERP system is the foundation of building a **Resilient manufacturing** which serves as the **building block** of a **resilient supply chain**



ERP Curriculum Supports Programs/Degrees

Undergraduate (for all majors)

- ERP Minor* (5 courses)
- Digital Supply Chain minor* (5 courses)

SAP University Alliances

SAP Certificate of Excellence with SAP (3 courses)

SAS | THE POWER TO KNOW.

SAS Certificate (4 courses)

Graduate

- MS IST
- MBA
- Engineering Management (MS., Ph.D.)
- System Engineering (MS, Ph.D.)
- Manufacturing Engineering (MS, Ph.D.)
- Mechanical & Aerospace Engineering (MS, Ph.D.)
- ...

Graduate Certificate & non-Degree (4 Courses)**

- Enterprise Resource Planning (ERP)
- Business Intelligence (BI)
- Digital Supply Chain (SCM)

* Minors are offered for students of all S&T majors

** A student who **completes a Graduate Certificate**, having earned a grade of "B" or better in each of the Certificate courses, requirements for **minimum undergraduate GPA** and for **GRE/GMAT requirement will be waived** for Graduate programs listed.

Request information: erp@mst.edu

Business Intelligence (BI) Graduate Certificate

- ❑ The **Business Intelligence Graduate Certificate** prepares students to transform data into actionable insights that support **effective business decision-making**. Through a **hands-on, technology-driven** curriculum, students learn how organizations **integrate, analyze, visualize, and communicate data** from multiple sources to **solve business problems and improve performance**.
- ❑ Students gain practical experience using leading business intelligence and analytics technologies from **SAP, SAS, Microsoft**, and other industry partners, developing skills that **connect business needs with real-world technology solutions**. The minor is open to students across majors and is particularly valuable for those pursuing careers in business analytics, information technology, consulting, data-driven management, and enterprise systems.

BI Graduate Certificate (12 hours)

Two of the courses are required:

- ERP 5410 Use of Business Intelligence
- ERP/IST 6444 Essentials of Data Warehouses

And Two of the Following:

- ERP 5110 ERP Systems Design and Implementation
- ERP 5210 Performance Dashboard, Scorecard, and Data Visualization
- ERP 6220 Data Modeling & Visualization Prototyping for Enterprise Decision Dashboards
- ERP 6610 Adv. Customer Relationship Management in ERP Environment
- IST 6443 Information Retrieval & Analysis
- IST 6445 Database Marketing

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Enterprise Resource Planning (ERP)

- ❑ **Connect business, engineering, and technology to drive digital transformation.**

Enterprise Resource Planning (ERP) powers modern enterprises by integrating supply chains, customer management, analytics, and enterprise AI.

- ❑ Missouri S&T's **ERP Minor and Graduate Certificate** combine theory with hands-on experience using industry-grade platforms, including **SAP S/4HANA, SAP cloud solutions, and Microsoft Dynamics 365.**

- ❑ As an **R1 university with self-hosted SAP capabilities**, Missouri S&T offers a distinctive environment for **learning, innovation, and research.**



Learn by Doing. Solve Real-World Problems. Lead Digital Transformation.

Build **career-ready skills** and a **foundation** for advanced study, research, and leadership across industries.



Enterprise Resource Planning (ERP)



Enterprise Resource Planning (ERP)

ERP Minor (15 hours)

Required course:

- ERP 2110 - Introduction to Enterprise Resource Planning Systems

Require **ONE** of the following courses:

- BUS 1210 - Financial Accounting
- ENG MGT 2211 - Engineering Accounting and Finance

Require **ONE** or **BOTH** of the following courses:

- ERP 4120 - ERP Software Development
- ERP 5110 - Enterprise Resource Planning Systems Design and Implementation

The remainder of 15 credits must be from any ERP3XXX, ERP 4XXX, ERP 5XXX, or IST 4444.

- ERP 4220 - Introduction to Enterprise Decision Dashboard Prototyping
- IST 4444 - Introduction to Data Warehouse
- ERP 4610 - Customer Relationship Management
- ERP 5130 - ERP in Small- and Medium-sized Enterprises
- ERP 5210 - Dashboard, Scorecards, and Data Visualization
- ERP 5310 - Supply Chain Management Systems in an ERP Environment
- ERP 5410 - Use of Business Intelligence
- ERP 5510 - ERP System Administration

ERP Graduate Certificate (12 hours)

Required Courses:

- ERP 5110: ERP Systems Design & Implementation
- ERP 6120: ERP Systems Configuration and Integration

And Two of the Following:

- ERP 5240: Enterprise Application Development and Software Security
- ERP 5410: Use of Business Intelligence
- ERP 5310: Supply Chain Management Systems in an ERP Environment
- ERP 5210: Performance Dashboard, Scorecard, and Data Visualization
- ERP 5510: ERP Systems Administration
- ERP 6610: Adv. Customer Relationship Management in ERP Environment
- ERP/IST 6444: Essentials of Data Warehouses
- ERP 6220: Data Modeling & Visualization Prototyping for Enterprise Decision Dashboards

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Enterprise Resource Planning (ERP)



Digital Supply Chain Management (DSCM)

- ❑ The interdisciplinary **Digital Supply Chain Management (DSCM) minor** and **Graduate Certificate** extends the education in enterprise systems and technology across business, engineering, and technology disciplines. Jointly offered by the **Jaggi School of Business, Engineering Management and System Engineering**, and **Mechanical and Aerospace Engineering** -- a collaborative initiative between the **Kummer College of Innovation, Entrepreneurship, and Economic Development** and the **College of Engineering and Computing**.
- ❑ The program prepares students to integrate **enterprise systems, data analytics, and supply chain strategies** in support of **digital transformation** across industry.
- ❑ With **hands-on access to live ERP systems and advanced analytical platforms**, the program bridges **theories, research, and real-world applications** to prepare graduates for careers as **industry professionals, future researchers, and educators**.

Engineering Management and Systems Engineering



Jaggi School of Business



Mechanical and Aerospace Engineering



Enterprise Resource Planning (ERP)



Digital Supply Chain Management (DSCM)

DSCM Minor (15 hours)

Required course:

- ERP 5310 - Supply Chain Management Systems in an ERP Environment

Require **ONE** of the following courses:

- BUS 5360 - Business Operations
- ENG MGT 3310 - Operations and Production Management
- ENG MGT 5614 - Supply Chain Management
- ME 3653- Manufacturing

Require **ONE** of the following courses:

- ERP 4610 Customer Relationship Management
- MKT/BUS 5150 - Customer Focus and Satisfaction

Require **TWO** of the following elective courses:

- ERP 2110 - Introduction to Enterprise Resource Planning (ERP) System
- ERP 4220 Introduction to Decision Dashboard
- ERP 5410 - Use of Business Intelligence
- ENG MGT 5615 Production Planning and Scheduling
- ENG MGT 5515/MECH ENG 5757 - Integrated Product and Process Design
- MECH ENG 5656 - Design for Manufacture
- MECH ENG 5708 - Rapid Product Design and Optimization
- MECH ENG 5763 - Computer-Aided Design: Theory and Practice

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DSCM Graduate Certificate (12 hours)

Required course:

- ERP 5310 - Supply Chain Management Systems in an ERP Environment

Required **ONE** of the following:

- MKT/BUS 5150 - Customer Focus and Satisfaction
- ERP 6610 - Advanced Customer Relationship Management in ERP Environment

Required **ONE** of the following:

- BUS 5360 - Business Operations
- BUS 6425 - Operations and Project Management
- ENG MGT 5614 - Supply Chain Management
- ENG MGT 5615 - Production Planning and Scheduling
- MECH ENG 5656 - Design for Manufacture
- MECH ENG 5708 - Rapid Product Design and Optimization

ONE elective course from the following:

- ERP 5110 - Enterprise Resource Planning Systems Design and Implementation
- ERP 5410 - Use of Business Intelligence
- ERP 6120 - Enterprise Resource Planning Systems Configuration and Integration
- ERP 6220 - Data Modeling and Enterprise Decision Dashboard Prototyping
- ENG MGT 5412 - Operations Management Science
- MECH ENG 5757/ENG MGT 5515 - Integrated Product and Process Design
- MECH ENG 5760/AERO ENG 5760 - Probabilistic Engineering Design
- MECH ENG 5763 - Computer-Aided Design: Theory and Practice



Enterprise Resource Planning (ERP)



Missouri S&T's Unique Capability and Competitive Advantages

The **only self-hosted Research 1 university** in the U.S. with the capability to support **education, research, and prototyping** by leveraging its **technical expertise** from being a former SAP University Competency Center (UCC)

- Missouri S&T is one of the pioneer SAP University Alliance (UA) schools since 1996
- Missouri S&T served as one of four UCCs hosting universities in the Midwest from 1996 to 2008.
- Our ERP program is recognized as the **most comprehensive and technically advanced** in both the State of Missouri and across the U.S.
- We deploy and manage a full suite of **SAP software** and other leading platforms such as **Microsoft Dynamics 365 ERP**, **SAS**, and **Oracle** to support our ERP curriculum, **research**, and service offerings.

Access to training materials from **SAP** and other software vendors (**Microsoft, SAS, ...**)

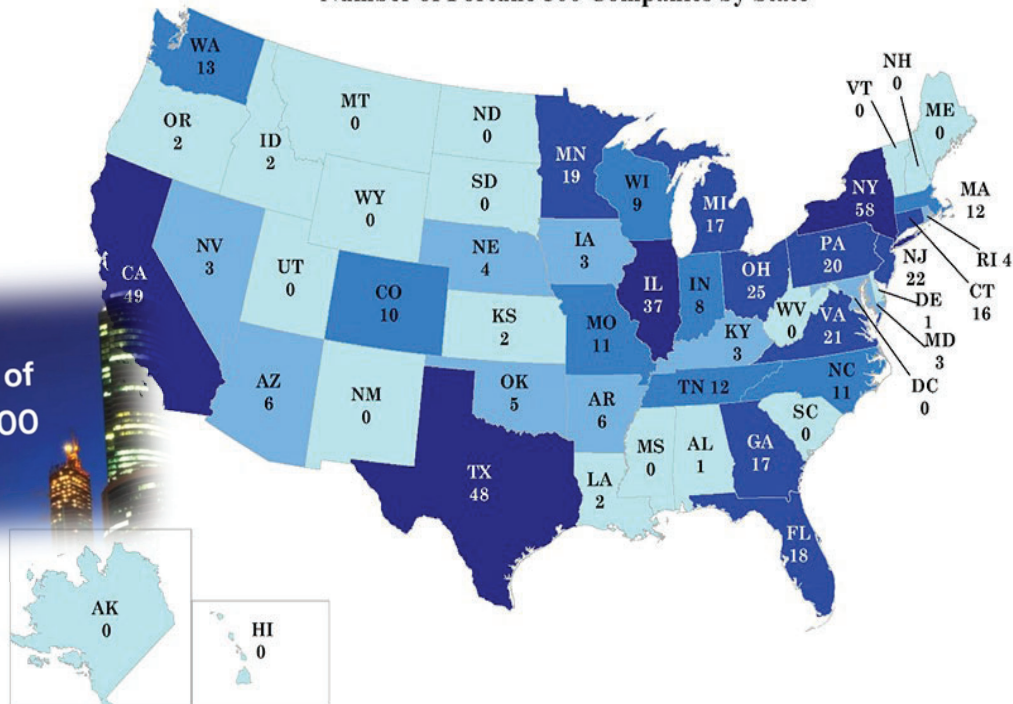
Ability to deploy working prototypes, create testing environments, design custom curriculum, etc.



All Fortune 500 Companies use an ERP System

Number of Fortune 500 Companies by State

SAP customers represent **86%** of Global Fortune 500 companies.



Companies & Agencies use SAP ERP System



Semiconductor/Chips



Oil/Gas/Energy Companies



Biotech companies

