MANAGEMENT INFORMATION SYSTEMS

Department Website: Management Information Systems (https://www.gonzaga.edu/catalogs/current/undergraduate/school-of-business/management-information-systems/)

The strategic use of information and communication technology (ICT) is critical for organizations in today's complex and competitive business environment. The Management Information Systems (MIS) concentration combines a strong business curriculum with the knowledge and technical skills of ICT required to help organizations thrive and grow. The MIS program is designed to prepare business professionals who are business oriented, technically competent, and able to interact effectively in organizations. Challenging career opportunities exist for MIS graduates across a variety of organizations (financial services, retail, consulting, technology, manufacturing, etc.) and positions (e.g., business analyst, application developer, network analyst, software engineer, project manager, database analyst, web developer, information systems manager, consultant).

Management Information Systems Concentration
Program Requirements

Code	Title	Hours
BMIS 331	Problem Solving and Program Techniques	3
BMIS 342	Data Analytics for Business	3
BMIS 441	Data Base Management	3
BMIS 444	Information System Analysis and Design	3
Total Hours		**12**

Courses

BMIS 235. Management Information Systems. (3 Credits)
This course introduces fundamental concepts of information systems and develops essential skills and techniques for using information technology (IT). The emphasis is on the role of information systems in today's organizations, including how IT changes individual work, impacts organizational structure and processes, and shapes competition in the business environment. Also, fundamental concepts essential to effective use of information technology are introduced. Specific topics include the system concept, hardware, software, communication tools, database management systems, components of information systems, e-commerce (EC), technologies for developing EC, and systems development approaches. Several software tools are employed to develop students' ability to apply information technology to business problems. Fall, Spring, and Summer.
Prerequisites: Prerequisites exist. Refer to Zagweb.
Enrollment limited to students with a semester level of Fourth Year (96+ credits), Second Year (26-59.99 credits) or Third Year (60-95.99 credits).

Enrollment is limited to students with a program in Undeclared Business, Accounting, Business Administration, Engineering Management, General Business or Mgmt Info Systems.

BMIS 245. Technical Foundations of Digital Marketing. (3 Credits)
Marketing now uses information technology more than ever before. For example, the majority of Google's revenue comes from advertising. The course aims to equip students with foundational knowledge, skills, and techniques of various technologies widely used to implement digital marketing and customer-facing website applications. Beginning with a brief review of the history of the Internet and the Web, the course introduces students to fundamental concepts of website setup, conversion optimization, landing page development, report creation, data layers, JavaScript, tags, triggers, custom variables, and A/B testing. Various tools and techniques are presented, such as the web page structure, web page language (HTML), Cascading Style Sheets (CSS), RegEx,, relevant digital reporting platforms and tactics, and script languages, including the de facto language of consumer-centered programming language, JavaScript. These skills will provide the technical background necessary for digital marketing. Offered Fall, Spring.

BMIS 331. Problem Solving and Program Techniques. (3 Credits)
This course provides a basic introduction and practical experience in developing algorithms and writing computer programs to solve business problems. Students will be required to design solutions as well as to code, test, and debug programs that are soundly structured and easy to maintain. Topics include variables, data types, control structures, input/output control, arrays, method invocation and parameter passing.
Prerequisites: BMIS 235 with a minimum grade of D
Enrollment is limited to students with a program in Business Analytics, Mgmt Info Systems, Digital Marketing or Mgmt Info Systems.

BMIS 342. Data Analytics for Business. (3 Credits)
The purpose of the course is to equip students with knowledge, skills, techniques and technologies for data analytics in the context of business. Starting with an introduction to the enterprise business intelligence architecture, the course will proceed to introduce and compare/contrast popular data analytics technologies, such as Power BI, R, and Python, in the market. After that, the course will focus on the development of skills using select data analysis technology. Students will learn how to extract data from heterogeneous data sources, how to transform data into a data format ready for analysis and how to analyze and visualize data. The target students of this course are those in the MIS concentration. The teaching objective is to prepare students to pursue a career in data analytics or to play the role of consultant assisting others in making informed data analytics-related decisions.
Prerequisites: BMIS 235 with a minimum grade of D and BMIS 331 with a minimum grade of D
Enrollment is limited to students with a program in Business Administration, Business Analytics, Mgmt Info Systems or Mgmt Info Systems.

BMIS 441. Data Base Management. (3 Credits)
This course helps students understand, through practice, the concepts of database management. Topics include a broader view in aspects of SQL (Structured Query Language), data modeling, project life cycle, data normalization, data warehousing and data administration. Computer projects are used to give students hands-on experience developing business applications using Oracle in a Client-Server environment.
Prerequisites: BMIS 235 with a minimum grade of D
Enrollment is limited to students with a program in Business Analytics, Mgmt Info Systems, Operations Supply Chain Mgmt or Mgmt Info Systems.

BMIS 443. Techniques for Web and Mobile-based Business. (3 Credits)
The objective of the course is to equip students with knowledge, skills and techniques for developing a minimally viable technical product (MVP) (i.e. a mobile/web app) as a pre-cursor to seeking funding to advance the idea further. Following the process of developing such products, students will be introduced to the tech-startup market, tech-startup business models, MVP product development, monetization through advertisements, segmenting customers for startups, and forming startup teams. This class is recommended for students who plan to start web-based businesses, or who want to join start-ups and need to understand the technical aspect of the business in order to communicate with the development team. Students will be expected to have Mac, Windows, or Linux computers that they can complete homework and projects on (detailed instructions on setup will be provided). Offered Fall, Spring.

BMIS 444. Information System Analysis and Design. (3 Credits)
The full range of business software development is covered in this course, including concepts, tools and techniques in the analysis and design of business information systems. Students will gain experience working with software tools utilized throughout the Systems Development Life Cycle (SDLC). Although the course concentrates on the analysis phase of systems development, topics may include strategic planning, system development methodologies, project management, requirements development, data and process modeling using a software engineering CASE tool, object modeling using UML, application architecture, installation and evaluation techniques. Offered once per year in the Spring.
Prerequisites: BMIS 441 with a minimum grade of D
Enrollment is limited to students with a program in Accounting, Business Administration, Digital Marketing or Mgmt Info Systems.

BMIS 445. Analytics Practicum. (3 Credits)
The analytics practicum provides an opportunity for students to apply what they learn from the classroom to an analytics project in the real-world. Students will gain professional practical experiences by working on an analytics problem significant to a business/organization. The course requires students to integrate multiple technologies and domain knowledge to create and present a solution to the project sponsor. Offered once per year in the Fall.
Prerequisites: BMIS 235 with a minimum grade of D

BMIS 489. Special Topic Seminar. (1-3 Credits)
May be repeated for credit.
Credits by arrangement.

BMIS 491. Directed Study. (1-3 Credits)
May be repeated for credit.
An individually designed course of study appropriate to the student's concentration. Prerequisites: junior or senior year standing, and department's permission. Summer only.
Enrollment limited to students with a semester level of Fourth Year (96+ credits) or Third Year (60-95.99 credits).

Enrollment is limited to students with a major in Business Administration.

Enrollment limited to students in the School of Business college.