MASTER OF SCIENCE IN INFORMATION SYSTEMS (M.S.I.S.)

Purpose
The purpose of the Master of Science in Information Systems addresses the growing importance of “information” as a critical business resource. The 36-hour program is designed to provide students with a broad perspective of information-related issues, and examine knowledge as a critical organizational resource. The overall focus of the program is on improving the student’s understanding of, and the ability to manage information/knowledge in today’s dynamic information technology and global business environments.

Program Learning Outcomes
The student will be able to:

1. Incorporate Christian worldview perspectives when solving managerial level information systems dilemmas.
2. Evaluate and present knowledge relevant to management of information systems in diverse business environments
3. Solve complex information systems challenges within various contexts.

Program Specific Admissions Requirements
In addition to the general admission requirements, admission to candidacy in the Master of Science in Information Systems program requires:

1. Earned baccalaureate degree or its equivalent from an institution accredited by an agency recognized by the U.S. Department of Education (e.g., SACSCOC, TRACS, ABHE, etc.)
2. An undergraduate cumulative GPA of 3.00 or above (on a 4.00 scale)
3. TOEFL (if applicable)
4. Students must have at least 3 hours in programming courses (C, C#, C++, or Java), 3 hours in algebra (MATH 121 College Algebra (3 c.h.) or higher), 3 hours in statistics (MATH 201 Introduction to Probability and Statistics (3 c.h.)/BUSI 230 Introduction to Probability and Statistics (3 c.h.)), and 27 hours in Business-related courses (ACCT, BUSI, ECON). If the student does not have the business related courses, they can enroll in BMAL 590 Business Common Professional Components (3 c.h.).

In addition to these courses, our accrediting body, ACBSP requires all students accepted into ACBSP accredited programs to meet the Information Systems/Technology Core Professional Component (ISCPC). If a student is missing a course(s) within the ISCPC, they may take the 3-credit-hour BMAL 590 Business Common Professional Components (3 c.h.) course to fulfill this requirement. Students with undergraduate courses in the following areas would not need to take BMAL 590 Business Common Professional Components (3 c.h.):

- Business Integration and Strategic Management
- Ethics
- Information Systems

Programs of Study
Delivery Format: Online Only
- Information Systems (M.S.I.S.) - Information Assurance
- Information Systems (M.S.I.S.) - Technology Management

Career Opportunities
- Data Network Consulting
- Systems Integration
- Information Security Analyst
- Project Management
- Information Assurance Cyber Specialist

Courses
BMIS 501 Executive Leadership and Management 3 Credit Hour(s)
This course provides a comprehensive perspective on leadership and management, from both an historical and current practices perspective. The link between management and leadership is examined and the application of leadership theory is explored.
Offered: Online

Note: All prerequisites must be met prior to taking any graduate level program courses.

Students who do not meet the minimum GPA requirement may be admitted on Academic Caution status. Students who have less than an undergraduate 2.5 GPA will not be admitted to the program.

Graduation Requirements
1. Complete 36 total hours.
2. A maximum of 50% of the program hours may be transferred if approved and allowable, including credit from an earned degree from Liberty University on the same academic level.
3. Maintain 3.00 GPA to remain in the program.
4. No more than two (2) grades of C may be applied to the degree (includes grades of C+ & C-).
5. No grade of D may be applied to the degree (includes grades of D+ & D-).
6. For information regarding the repeat policy, please refer to “Course Repeat Policy” in the Academic Information and Policies section of this Catalog.
7. The degree must be completed within 5 years.
8. Submission of Degree Completion Application must be completed within the last semester of a student’s anticipated graduation date.
BMIS 510 Enterprise Models 3 Credit Hour(s)
Online Prerequisite: Bus Cmn Pro Cptnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Obj-Oriented Programming Req with a score of 3
This course provides a process-oriented view of the organization and its relationships with suppliers, customers, and competitors. Topics include using processes as vehicles for achieving strategic objectives and transforming an organization; process analysis, design, implementation, control, and monitoring; processes as a means of achieving compliance. The role of enterprise resource planning (ERP), supply chain management (SCM), and customer relationship management (CRM) systems will also be explored.
Offered: Online

BMIS 520 IT Infrastructure 3 Credit Hour(s)
Online Prerequisite: (Bus Cmn Pro Cptnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Obj-Oriented Programming Req with a score of 3) or (BMIS 505 and Bus Cmn Pro Cptnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Obj-Oriented Programming Req with a score of 3 and Adv Obj-Oriented Program Req with a score of 3 and Busi Data Comm Sys / Netwk Req with a score of 3)
This course explores the design, implementation, and management of digital networks. Topics will include telecommunications fundamentals, server architecture, as well as cluster and grid computing. The course will explore the development of an integrated technical architecture (hardware, software, networks, and data) to serve organizational needs in a rapidly changing and competitive technological environment.
Offered: Online

BMIS 530 Systems Analysis, Modeling, and Design 3 Credit Hour(s)
Online Prerequisite: (BMIS 520 and Bus Cmn Pro Cptnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Obj-Oriented Programming Req with a score of 3) or (BMIS 520 and Bus Cmn Pro Cptnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Obj-Oriented Programming Req with a score of 3 and Adv Obj-Oriented Program Req with a score of 3 and Busi Data Comm Sys / Netwk Req with a score of 3) or (INFO 535 and Bus Cmn Pro Cptnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Prin of Human Bio / Human AP with a score of 3)
This course will provide a practical look at the current methodologies and design techniques necessary for system implementation, operation, and maintenance. These include the systems development life cycle (SDLC), rapid application development (RAD), agile development, object-oriented analysis and design, prototyping, visual development, and the human computer interface (HCI).
Offered: Online

BMIS 580 Human Computer Interaction and Emerging Technologies 3 Credit Hour(s)
Online Prerequisite: BMIS 510 and BMIS 520
This course addresses emerging technologies, how they evolve, and how to identify them. Topics covered in the course include accuracy of past forecasts and how to improve them, international perspectives on emerging technologies, future organizational and customer trends, and forecasting methodologies. It further explores human characteristics and their impacts on developing human-centered information systems. Finally, emerging trends in human interaction with mobile applications, internet applications, social networking technology, cloud computing, and stand-alone applications will be explored.
Offered: Online

BMIS 601 Decision Making and Executive Information Systems 3 Credit Hour(s)
Online Prerequisite: BMIS 530 and BMIS 510 and BMIS 520
This course will provide students with an understanding of computer-based information systems and their role in modern global organizations and society as a whole. Topics will explore the capabilities and limitations of information systems based on their design and configurations. Databases will be a focus of this course, considering the central role they play in the information systems strategies of most organizations.
Offered: Online

BMIS 603 Business Simulation and Modeling 3 Credit Hour(s)
Online Prerequisite: BMIS 601 and BMIS 510 and BMIS 520 and BMIS 530
This course introduces students to the concepts of business process improvement and principles of lean thinking. This course will address the historical reasons behind the structure of organizations. Students will learn to analyze and re-conceptualize the organization in terms of business processes and how to use that knowledge to improve organizational effectiveness and efficiency.
Offered: Online

BMIS 650 Operations Management 3 Credit Hour(s)
This course provides graduate-level instruction regarding the concepts and analytic methods that are useful in understanding the management of a firm’s operations. Special emphasis will be placed on familiarizing the student with the problems and issues confronting operations managers, and providing the student with language, concepts, insights and tools to deal with these issues in order to gain competitive advantage through operations. Because the course deals with the management of 'processes,' it applies to both for-profit and nonprofit organizations, to both service and manufacturing organizations, and to virtually any functional area or industry.
Offered: Online

BMIS 570 Ethics and Legal Issues 3 Credit Hour(s)
This course explores the ethical and legal implications of the digitization of data, information, and communications on organizations and society. These areas are examined in regard to information privacy, accessibility, property rights, and accuracy. The proliferation of computer crime and its ramifications as well as the legal and regulatory environment will be examined. The course will also look at the impact of globalization, sourcing, technology workforce, and the digital divide.
Offered: Online
BMIS 662 Telecommunications and Network Security 3 Credit Hour(s)
**Offered:** BMIS 520 and BMIS 510
This course develops a managerial level review of technical knowledge and terminology for data, voice, image, and video communications and computer networks to effectively communicate with technical, operational, and management people in telecommunications. The course will cover the Telecommunications and Network Security domain which encompasses topics to include: access control network structure, transmission methods, transport formats, and security measures used to maintain the integrity, availability, authentication, and confidentiality of the transmitted information over both private and public communication networks. The course will also give an overview of network security and the basics of cryptography. Additional topics include but are not limited to: threat models, authentication and authorization mechanisms and standards, public key infrastructure, electronic mail security, network layer security, transport layer and web security, packet filtering, firewalls, intrusion detection, and virtual private networks.
**Offered:** Online

BMIS 663 Secure Enterprise Design and Development 3 Credit Hour(s)
**Online Prerequisite:** BMIS 530 and BMIS 510 and BMIS 520
This course includes studies in security architecture and applications security. A detailed look will be given at the concepts, principles, structures and standards used to design, implement, monitor and secure operating systems, equipment, networks and applications. The course will explore controls used to enforce various levels of confidentiality, integrity and availability.
**Offered:** Online

BMIS 664 Information Forensics, Compliance and Risk Management 3 Credit Hour(s)
**Online Prerequisite:** BMIS 663 and BMIS 510 and BMIS 520
This course covers a diverse set of topics in information security and incident response. Risk Management Domain involves the identification of an organization’s information assets and the development, documentation, and implementation of policies, standards, procedures, and guidelines that ensure confidentiality, integrity, and availability. The Legal, Regulations, Investigations, and Compliance domains addresses computer crime laws and regulations, the investigative measures and techniques which can be used to determine if a crime has been committed, and methods to gather evidence. Incident handling provides the ability to react quickly and efficiently to malicious technical threats or incidents.
**Offered:** Online

BMIS 665 Information Operations and Security 3 Credit Hour(s)
**Online Prerequisite:** BMIS 662 and BMIS 510 and BMIS 520 and BMIS 530
Operations Security is used to identify the controls over hardware, media and the operators with access privileges to any of these resources. This course will look at the mechanisms, tools and facilities that permit the identification of security events and subsequent actions that follow identification. The course will address the threats, vulnerabilities and countermeasures that can be utilized to physically protect an enterprise’s resources and sensitive information. A study of Business Continuity and Disaster Recovery Planning addresses the preservation of the business in face of major disruption to normal business operations will also be included. The preparation, testing and updating of specific actions to protect critical business processes from the effects of major system and network failures will be explored.
**Offered:** Online

BMIS 680 Advanced IT Project Management I 3 Credit Hour(s)
**Online Prerequisite:** BMIS 650 or (INFO 505 and Bus Cmn Pro Cptnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3)
This course is designed to provide students with the essential tools needed for leading and managing information technology (IT) projects. These include the traditional processes related to initiating, planning, executing, controlling, reporting and closing a project, with a focus on the unique challenges that information technology presents. These challenges include: software application size and cost estimations, assigning work to development teams, version control and managing the organizational change process. Other topics include the changing role of the IT manager in customer and partner relationship management, outsourcing and external contracts.
**Offered:** Online

BMIS 681 Advanced IT Project Management II 3 Credit Hour(s)
This course explores the organizational aspects of information technology (IT) program management with the aim of providing knowledge, skills and exposure to issues in managing information and utilizing information technology as an asset in organizations. Students completing this course will be better equipped to be managers engaged in defining and implementing information systems opportunities and solutions or as leaders in an Information Systems department. Major topics include: information asset management, strategic information systems planning, information services organization issues, best practices for service level management, IT personnel selection and management, IT Procurement/request for proposal development/vendor selection, and contract negotiation principles.
**Offered:** Online

BMIS 690 Integrated Capstone 3 Credit Hour(s)
**Online Prerequisite:** (BMIS 510 and BMIS 520 and BMIS 530 and BMIS 603 and BMIS 681) or (BMIS 510 and BMIS 520 and BMIS 530 and BMIS 664 and BMIS 665)
This capstone course focuses on the design and management of an overall organizational system consisting of three interacting subsystems: (1) the enterprise itself - its structure, core processes, and relationships with external entities such as customers, suppliers, and outsourcers; (2) the IS function and its role in marshaling information technologies and information assets to support the strategy of the organization, and (3) the information technology architecture consisting of the organization’s networks, hardware, data, and applications. The student will learn how to integrate and synthesize these three aspects of the enterprise, how IT must be aligned with the strategy of the organization, and how to make appropriate choices about architecture in relationship to overall organization goals.
**Offered:** Online