BUSINESS AND INFORMATION TECHNOLOGY

The Department of Business and Information Technology (BIT) provides innovative and applied degrees to meet workforce demands. The Department currently offers two associate degrees and five bachelor’s degrees from two discipline or program areas.

- Business Management Technology (2420)
  - Organizational Supervision (BS) [ACBSP Accredited]
- Computer Information Systems (2440)
  - Computer Information Systems, Cisco Networking track (AAB) [ACBSP Accredited]
  - Computer Information Systems, Programming option (AAB) [ACBSP Accredited]
  - Computer Information Systems, Cybersecurity option (BS)
  - Computer Information Systems, Digital Forensics option (BS)
  - Computer Information Systems, Networking option (BS) [ACBSP Accredited]
  - Computer Information Systems, Programming option (BS) [ACBSP Accredited]

The Department has strong and engaged advisory boards. Faculty in the department pride themselves on quality student learning, continuous improvement, innovation, and scholarship. The department’s programs expose students to business fundamental structures and concepts while providing students with the technical knowledge and skills for the workforce.

Mission

The mission of the Department of Business and Information Technology is:

1. To provide a comprehensive quality professional education that prepares students for positions in Business Management and Computer Information Systems;
2. To provide training as needed for the work force in business, industry, and community organizations;
3. To provide assistance to all students to increase their chances for successful achievement of their goals;
4. To provide quality preparation and assistance to students pursuing additional degrees; and
5. To assist the university in reaching out to the community, provide appropriate support to the university by direct involvement in professional and civic organizations, and to provide the public with appropriate programming and facilities.

Accreditation

All current programs, except the BS CIS – Cybersecurity and the BS CIS – Digital Forensics degrees, at the Department of Business and Information Technology are accredited by the Accreditation Council for Business Schools & Programs (ACBSP) (https://www.acbsp.org). Founded in 1988, ACBSP is a global business education accrediting body and the only organization to offer accreditation to all levels of collegiate business educational degree programs from associate to doctoral.

ACBSP ignites a standard of excellence with an accreditation process based on the Baldrige Education Criteria for Performance Excellence. By evaluating aspects of leadership, strategic planning, relationships with stakeholders, quality of academic programs, faculty credentials, and educational support, ACBSP assesses whether or not business programs offer a rigorous educational experience and commitment to continuous quality improvement.

For additional BIT Department accreditation information, please click here (https://www.uakron.edu/bit/accreditation).

Job Placement

Past graduates from the Department of Business and Information Technology have secured full-time jobs in local, national, and global companies.

For the department’s job placement information, please click here (https://www.uakron.edu/bit/placement).

Discipline/Program Areas

2420: Business Management Technology

This program area offers the bachelor of organizational supervision (BOS) degree. The BOS program is an articulated degree (or degree completer) that prepares students, who have attained an associate degree to gain supervisory and leadership skills necessary for professional and career advancement. The program provides broad skills and competencies to be applied in a variety of leadership roles in various industries.

The program prepares students for positions at the supervisory level of large organizations, as small business owners/managers, or as team leaders for organizations. Graduates of the BOS degree might be able to get jobs as management analysts, human resources managers, sales managers, community service managers, and consultants in various areas of the business world, including human resources, training and sales, or to find work in the nonprofit sector or in government.

The BOS program trains students to demonstrate the following competencies:

1. Develop supervisory skills to become an effective leader.
2. Understand organizations, their processes, and their interactions.
3. Apply information technology and other analytical skills to meet the challenges of today’s rapidly changing workplace.
4. Implement ethical decision-making practices to support the organization and its stakeholders.
5. Develop skills to better engage employees within culturally diverse environments.

2440: Computer Information Systems

This discipline area offers programs that introduce students to basic computing concepts and prepares students to gain the knowledge and applied skills necessary to solve computer-related business problems.

The goal of the Computer Information Systems (CIS) program area is to train students to demonstrate the following competencies:

1. Demonstrate oral and written communications to collect business process information, clarify business needs and communicate proposed business solutions.
2. Analyze and synthesize information to apply learned skills to new technologies and software languages beyond the scope of the curriculum.
3. Apply logical thinking and problem solving skills to effectively solve business problems using information technology.
4. Demonstrate interpersonal relation skills by working as an effective team member to solve business problems.
5. Demonstrate skill proficiency in a chosen CIS degree option.

Programs

To help choose the right bachelor’s degree to pursue from the Department of Business and Information Technology, please click here [https://akron.qualtrics.com/jfe/form/SV_6AnVz8BVibRR3WB](https://akron.qualtrics.com/jfe/form/SV_6AnVz8BVibRR3WB).


Business Management Technology (2420)

2420:103 Essentials of Management Technology (3 Credits)
Survey of management principles for business and other organizations. Emphasizes the basic management functions including planning, organizing, staffing, influencing, and control.

2420:104 Introduction to Business (3 Credits)
Survey of business emphasizing the nature of business and including entrepreneurship concepts, form, marketing, management, human resources, financial resources and production.

2420:117 Small Business Development (3 Credits)
Prerequisite: 2420:211 or permission. Introduction to small business and entrepreneurship: opportunities and qualifications for establishing, financing, operating and developing managerial policies and procedures for small business.

2420:125 Essentials of Personal Finance (3 Credits)
Consumer decision making including credit and budgets, time value of money, major purchases, insurance, investments, tax planning, retirement and estate planning.

2420:140 Keyboarding (2 Credits)
Fundamentals in the operation of the keyboard; application emphasis on individual student needs such as resumes, application letters and forms, term reports, abstracting, etc.

2420:202 Elements of Human Resource Management (3 Credits)
Prerequisite: 2420:103. Provides students with an overview of human resource management functions. Includes planning, EEO/AA, selection, development, legal environment, compensation, labor relations, appraisal systems and career planning.

2420:211 Essentials of Financial Accounting (3 Credits)

2420:212 Basic Accounting II (3 Credits)
Prerequisite: 2420:211. Accounting as it applies to partnerships and corporations. Includes stocks, bonds, cash flows, financial statement analysis, and specialized accounting software.

2420:213 Essentials of Management Accounting (3 Credits)
Prerequisite: 2420:211. Study of the interpretation and use of accounting data by management in decision making and the planning and controlling of business activities.

2420:214 Essentials of Intermediate Accounting (3 Credits)

2420:215 Computer Applications for Accounting Cycles (3 Credits)
Prerequisites: 2420:212, 2420:213, and 2540:270. Develops the skills of computer accounting as used in today's marketplace through hands on experience with general ledger accounting software.

2420:216 Survey of Cost Accounting (3 Credits)
Prerequisite: 2420:213. Provides student with conceptual understanding of how accounting information is developed and used for product costing, decision making and managerial planning and control.

2420:217 Survey of Taxation (3 Credits)
Survey course of basic tax concepts, research, planning, and preparation of returns for individuals. Federal, state and local taxes are discussed.

2420:218 Automated Bookkeeping (2 Credits)
Corequisite: 2420:212. Provides experience with accounting software packages to include the processing of general ledger, accounts receivable, accounts payable, and payroll transactions.
2420:220 Applied Accounting (3 Credits)
Prerequisites: 2420:212, 2420:213, and 2540:270. An applied orientation focusing on all accounting functions through adjusted trial balance and basic payroll skills. Emphasis on skills required for the Certified Bookkeeping designation.

2420:227 Entrepreneurship Projects (3 Credits)
Prerequisites: 2420:103, 2420:104, 2420:117, 2420:212, 2420:243, and 2540:270. Requires the student to research, design, and complete a comprehensive business plan which will become the blueprint for a new or existing business.

2420:243 Survey in Finance (3 Credits)
Prerequisites: 2420:170 and 2420:211. Survey of field including instruments, procedures, practices and institutions. Emphasis on basic principles.

2420:245 Business Management Accounting Internship (3 Credits)
Prerequisites: [2420:212 and 2420:213] or [2420:215 and 2420:216]. An accounting field experience exposing the student to the actual accounting environment and general workplace.

2420:246 Business Management Internship (3 Credits)
Prerequisites: 2420:103, 2420:104, 2420:212, 2420:280, 2040:240, 6300:201, and sophomore or greater standing. A management field experience exposing the student to the actual management environment and general workplace.

2420:250 Problems in Business Management (3 Credits)

2420:263 Professional Communications and Presentations (3 Credits)
Application of the principles of communication in speeches, business presentations, group discussions, and business documents.

Gen Ed: Tier 1 - Speaking

2420:270 Business Software Applications (3 Credits)
Prerequisite: 2440:105; Wayne College students - 2440:125, 2540:241, and 2540:253. Use of business application software and critical thinking skills to solve business problems. Word processing, spreadsheets, database, presentation software, integration of applications, and the Internet.

2420:280 Essentials of Business Law (3 Credits)
History of the law and the judicial system, torts and criminal law affecting business, contracts with emphasis on sales under the UCC, and commercial paper.

2420:290 Special Topics: Business Management Technology (1-3 Credits)
Prerequisite: Permission. Selected topics or subject areas of interest in business management technology. (May be repeated for a total of four credits)

2420:300 Supervision in a Technical Environment (3 Credits)
Competencies required for successful transition from individual contributor to supervisor. Emphasis on working effectively with others and self-development as a leader.

2420:301 Information Design (3 Credits)
Prerequisites: [2020:212 and 2020:222] or [3300:111 and 3300:112] or equivalent. Principles of visual rhetoric and practice in communicating with text and graphics. Examines the role of design in a variety of workplace communication documents.

2420:302 Ethics and Law in Business (3 Credits)
Prerequisite: Junior or greater standing. Workplace ethical principles and legal issues such as liability, safety, quality, honesty, and confidentiality. Case studies and projects explore global, legal, and technological issues affecting employee interaction in the workplace.

2420:310 Leadership Principles & Practices for Technical Organizations (3 Credits)
Corequisite: 2420:300. Contemporary perspectives and issues in leadership and supervision. Development of effective leadership characteristics.

2420:311 Corporate Social Responsibility and Leadership (3 Credits)
Prerequisite or Corequisite: 2420:300 with a C or better. Theory and best practices in corporate social responsibility, community service and leadership in local, national and global settings. Identify leadership opportunities for future contributions.

2420:312 Global Business Communication (3 Credits)
Prerequisite: Completion of 48 credit hours. Emphasis on organizational and interpersonal communication needed in an integrated world economy. Provides an overview of business communication to effectively conduct global business and negotiations.

2420:401 Leading Project Teams (3 Credits)
Prerequisite: 2420:310 with the grade of C or better. Examines and applies the operational and human aspects of project team management from conception to completion.

2420:402 Operational Assessments and Improvements (3 Credits)
Prerequisites: [3470:250 or 3470:260] and 2420:310 with a grade of C or better. Methods for conducting business process assessments and evaluating results in organizations.

2420:420 Human Resources Development (3 Credits)
Prerequisite: 2420:310 with a grade of C or better. Overview of current theories and best practices in human capital development.

2420:421 Senior Seminar in Organizational Supervision (3 Credits)
Prerequisite: 2420:402 with a grade of C or better. Integration and application of professional knowledge, skills, and technologies to organizational issues.

Computer Information Systems (2440)

2440:105 Introduction to Computers and Application Software (3 Credits)
Overview of basic computer concepts, electronic mail and Internet terminologies. Introductory-level instruction and hands-on experience in word processing, spreadsheet, database and presentation software.

2440:121 Introduction of Logic/Programming (3 Credits)
Prerequisite: 2440:105 or placement test. An introduction to business problem solving using computer-based solutions. Topics include structured design, documentation and modularity. Includes a component of hands-on programming.

2440:125 Spreadsheet Software (2 Credits)
Prerequisite: 2440:105 or placement test. Emphasizes mastery of spreadsheet applications using Excel.

2440:140 Internet Tools (3 Credits)
Prerequisite: 2440:105 or placement exam. Students will learn to create web pages using HTML and enhance their documents by including hyperlinks, tables, forms, frames and images in their HTML code.
2440:141 Web Server Administration (3 Credits)
Prerequisite: 2440:105 or placement test. Provides Web server administration guidelines such as selecting software/hardware, domain name registration, analyzing security/legal issues, and implementing marketing strategies.

2440:145 Introduction to Unix/Linux (3 Credits)
Prerequisite: 2440:105 or placement exam. This course explores the vital functions that an operating system performs. A multi-user operating system is studied from a functional and hands-on approach.

2440:160 JAVA Programming (3 Credits)
Prerequisite: 2440:121. Course introduces the JAVA programming language. Programming techniques are demonstrated through the coding, testing and debugging of JAVA applications and applets.

2440:170 Visual BASIC (3 Credits)
Prerequisite: 2440:121. Course includes hands-on experience with Visual BASIC, design of Graphical User Interface (GUI) applications, event-driven programming, linking of windows, and accessing relational databases.

2440:180 Introduction to Database Management (3 Credits)
Prerequisite: 2440:121. Overview of database system models and functions. Covers introduction to database design and relational database definition and manipulation using SQL.

2440:201 Networking Basics (3 Credits)
Prerequisite: 2440:105 or placement exam. The introductory course in networking. It includes study of the common network protocols, structures, and models. Basic router and switch configurations are introduced.

2440:202 Router and Routing Basics (3 Credits)
Prerequisite: 2440:201. The second course to networking. It covers basic router configuration as well as routed and routing protocols.

2440:203 Switching Basics and Wireless (3 Credits)
Prerequisites: 2440:201 and 2440:202 with a grade of C or better in both. The third of four courses leading to the CCNA certification. The course covers switching basics and basic wireless networking.

2440:204 WAN Technologies (3 Credits)
Prerequisites: 2440:202 and 2440:203. The fourth of four courses leading to the CCNA certification. The course covers switching basics and basic wireless networking.

2440:210 Client/Server Programming (3 Credits)
Prerequisite: 2440:180. Introduces student to client/server programming. Includes hands-on experience using a Rapid Application Development (RAD) tool to show integration of database and program development.

2440:211 Interactive Web Programming (3 Credits)
Prerequisites: 2440:121 and 2440:140. Provides students with instruction on interactive Web programming using XML and DHTML (HTML5, CSS, and Web scripting).

2440:212 Multimedia & Interactive Web Elements (3 Credits)
Prerequisite: 2440:140. Reviews and demonstrates web tools and techniques like RealAudio, Shockwave, QuickTime, video conferencing and other dynamic graphical elements to enhance Web-based communication. Multimedia software may change to reflect current technology.

2440:240 Computer Information Systems Internship (3 Credits)
Prerequisite: 2440:241, [2440:202 and 2440:247], or [2440:282 and 2440:247]. Provides student experience in computing/information technology in the workplace. Students meet with instructor to discuss and examine experiences.

2440:241 Systems Analysis & Design (3 Credits)
Prerequisites: 2440:180 and [2440:160 or 2440:170 or 2440:256]. Covers all phases of business systems analysis, design, development, and implementation. Such principles as system flowcharting and file and document design emphasized.

2440:247 Hardware Support (3 Credits)
Prerequisite: Admission to program or permission of the program director. This course introduces the student to the basic skills required to troubleshoot, maintain and repair computers.

2440:248 Server Hardware Support (3 Credits)
Prerequisite: 2440:247. This course introduces the student to server hardware and expands student knowledge of client hardware.

2440:251 CIS Projects (3 Credits)
Prerequisite: 2440:241 or permission. Using a simulated work environment, project teams are set up and required to analyze an unstructured problem, prepare alternative designs and implement a solution.

2440:256 C++ Programming (3 Credits)
Prerequisite: 2440:121. This course explores object-oriented programming through C++ program development.

2440:258 Information Continuity and Recovery (3 Credits)
Prerequisites: 2440:201 and 2440:247. This course focuses on issues in keeping organizational information secure and available. It also covers contingency planning for disasters and security breaches.

2440:259 Computer and Network Security (3 Credits)
Prerequisites: 2440:202 and 2440:247. This course focuses on computer and network security issues related to conducting business over the Internet. A common framework of information security terms and principles is used, and students learn to implement these principles in a business environment.

2440:281 Microsoft Networking I (3 Credits)
Prerequisite: 2440:105. Provides the knowledge and skills necessary to manage and maintain Windows in the enterprise. This course also helps prepare the student to pass the MCTS exam.

2440:282 Microsoft Networking II (3 Credits)
Prerequisite: 2440:281. Provides the knowledge and skills necessary to manage and maintain computers with the Windows Server 2008 Network Operating System. This course will also help prepare you to pass the MCTS Exam.

2440:283 Microsoft Networking III (3 Credits)
Prerequisite: 2440:282. Provides the knowledge and skills necessary to manage and maintain an active directory service hosted by the Server 2008 Network Operating System. This course also helps prepare the student to pass the MCTS Exam.

2440:284 Microsoft Networking IV (3 Credits)
Prerequisite: 2440:283 or passing score on the 70-640 Microsoft Certification Exam. This course will provide you with the knowledge and skill necessary to install, configure, manage and maintain the server services provided with Server 2008.

2440:290 Special Topics: Computer Information Systems (1-5 Credits)
Selected topics or subject areas of interest in computer information systems.

2440:300 Network Authentication and Security (3 Credits)
Prerequisites: 2440:204 and junior or better standing. This course focuses on network security issues related to conducting business over the Internet, including authentication, authorization, and firewalls.
2440:303 Voice, Data, and Video (3 Credits)
Prerequisites: 2440:204 and junior or better standing. This course focuses on network issues related to the integration of voice, data, and video over the same network media and equipment.

2440:306 Ethics & Law in Information Technology (3 Credits)
Prerequisite: Junior or greater standing. This course is designed to introduce the student to the central issues concerning intellectual property, privacy, and copyright law as it pertains to the development and distribution of software systems.

2440:310 Wireless Networking (3 Credits)
Prerequisite: 2440:204 or permission. This course provides students with various wireless networking technologies.

2440:311 Client/Server Programming II (3 Credits)
Prerequisite: 2440:210. Discusses tools for client-server programming, distributed computing, socket programming, and security implementation.

2440:321 Server-Side Scripting (3 Credits)
Prerequisites: 2440:121 and 2440:140. This course provides students with instruction on using server-side scripting languages to develop interactive client/server web-based applications.

2440:331 Programming for Cybersecurity (3 Credits)
Prerequisites: 2440:121 and 2440:145 with grades of C or better. This course will introduce basic programming techniques used for ethical hacking using the Linux Operating System and other tools that are commonly used in cybersecurity.

2440:340 Network Forensics I (3 Credits)
Prerequisites: 2220:281 with a grade of C or better and junior or greater standing. This course will provide the student with basic knowledge of surveillance of networking devices, identifying and preventing attacks and incident response.

2440:360 Java Programming II (3 Credits)
Prerequisite: 2440:160. This course covers advanced object-oriented programming concepts, GUI programming, web application programming, network and security programming, JavaBeans and explores aggregations.

2440:365 E-Business Application Development (3 Credits)
Prerequisites: 2440:211 and 2440:321. This course covers web programming techniques to develop Web-based e-business solution and covers e-business models and business issues.

2440:370 Visual Basic Programming II (3 Credits)
Prerequisite: 2440:170. This course explores object-oriented programming through Visual Basic program development at a more advanced level, with more attention to business applications.

2440:388 Advanced UNIX/Linux (3 Credits)
Prerequisites: 2440:145 and junior or greater standing. This course provides students with the necessary knowledge and skills to perform basic administrative tasks on a UNIX/Linux operating system.

2440:400 Advanced Routing (4 Credits)
Prerequisites: 2440:201, 2440:202, 2440:203, 2440:204, 2440:300, and 2030:154, or possess a current CCNA certification and be able to configure a router to the CCNA standards. This course focuses on advanced routing protocols and features and complies with the content of the Cisco Academy Cisco Certified Network Profession (CCNP) Advanced Routing course.

2440:401 Multilayer Switching (3 Credits)
Prerequisites: Must have a current CCNA certification and be able to program a router to the CCNA standards (requires permission), or must have successfully completed all four Cisco Networking Academy CCNA courses from an accredited academy (2440:201, 2440:202, 2440:203, 2440:204). This course focuses on switching protocols and features. This course complies with the content of the Cisco Academy Cisco Certified Network Profession (CCNP) Switching course.

2440:402 Troubleshooting Complex IP-based Networks (4 Credits)
Prerequisites: 2440:400 and 2440:401 with grades of C or better or permission. This course focuses on methodologies and hands-on skills needed to maintain and troubleshoot complex IP networks.

2440:430 Network Monitoring and Management (3 Credits)
Prerequisite: 2440:204 or junior or greater standing. This course provides students the basic theory and practical application of network monitoring and management skills.

2440:431 UNIX-based Systems Security (3 Credits)
Prerequisites: 2440:388 with a grade of C or better and junior or greater standing. This course will introduce the various methods used to secure UNIX-based operating systems (Apple iOS and Andriod Operating System) on a computer network.

2440:440 Intrusion Detection (3 Credits)
Prerequisites: 2440:340 with a grade of C or better, 2440:388, and junior or greater standing. This course will introduce students to the various methods used to detect external and internal intrusion of computer systems.

2440:441 Cyber Security (3 Credits)
Prerequisites: 2030:361, 2440:340, and 2440:388 with a grades of C or better and junior or greater standing. This course will address issues involving hacking, malware, social theories, protocols, firewalls, intrusion detection, the prevention and containment of intrusion incidents, the incident response process, and computer forensic examination.

2440:442 Wireless Forensics (3 Credits)
Prerequisites: 2440:340 with a grade of C or better and junior or greater standing. The forensic identification and tracking of attacks on wireless networks and mobile communications devices.

2440:443 Network Forensics II (3 Credits)
Prerequisite: 2440:340 with a grade of C or better or junior or greater standing. Deployment, building and running an NSM operation using open source software and vendor neutral tools with the Linx Operating System.

2440:450 Applied Data Mining (3 Credits)
Prerequisites: 2030:345 and junior or greater standing. This course is designed to introduce the student to the central issues in business data mining.

2440:451 Senior Programming Projects (3 Credits)
Prerequisite: Senior or greater standing. This is the capstone course where senior students will apply learned material by simulating a realistic work environment.

2440:452 CIS Practicum (3 Credits)
Prerequisite: Permission. Provides students with experience in computer information systems operation and maintenance in the workplace. Practicum must be relevant to the specialization area.

2440:456 C++ Programming II (3 Credits)
Prerequisite: 2440:256. This course explores object-oriented programming through C++ program development at a more advanced level. Also considers Visual programming and connection to databases.
2440:465 Data Communications & Networking (3 Credits)
Prerequisite: Junior or greater standing. Introduces students to business data communication and networking concepts. The OSI model, various network configuration and popular industry communication protocols are explored at an advanced level.

2440:470 Database Management II (3 Credits)
Prerequisite: 2440:180. Covers advanced database design, definition, manipulation, and administration tasks with emphasis placed on the relational model, the object-oriented model, and client/server systems.

2440:480 Current Topics in Computer Information Systems (3 Credits)
Prerequisite: Permission. Seminar in topics of current interest in information technology or special individual topics in information technology.

2440:490 CIS Senior Networking Projects (3 Credits)
Prerequisites: 2440:388, 2440:400, and 2440:401 with grades of C or better or permission. The capstone course is used to research, document and implement current and advanced IT topics using knowledge and skills developed from networking courses.

2440:491 CIS Senior Cybersecurity Project (3 Credits)
Prerequisites: 2440:388, 2440:442, and 2440:443 with grades of C or better or permission. This is the capstone course for the CIS Digital Forensics and Cybersecurity degree options.

Marketing and Sales Technology (2520)

2520:101 Essentials of Marketing Technology (3 Credits)
Survey of marketing including its environment, buyer behavior, target market selection, product decision, distribution decisions, promotion decisions, pricing decisions and marketing management.

2520:202 Retailing Fundamentals (3 Credits)
Presents basic principles and practices of retailing operations, including site selection, buying, pricing and promotion practices. Use is made of extensive projects and investigations and actual retail operations.

2520:203 Principles of Advertising (3 Credits)
Prerequisite: 2520:101 or 6600:205. Focuses on principles and functions of advertising, creation and evaluation of advertisements, research of target market, message selection strategy, and media placement options.

2520:204 Services Marketing (3 Credits)

2520:206 Retail Promotion & Advertising (3 Credits)
Prerequisite: 2520:202 or permission. Studio course in retail display and promotion techniques. Window, interior and point of purchase categories; principles of design as applied to commercial art, function in visual design, elements of design, color theory, lettering, printing process, layout to camera-ready art.

2520:212 Principles of Sales (3 Credits)
Prerequisite: 2520:101 or permission. Study of basic principles of selling, emphasizing individual demonstrations and sales projects. Includes review of sales function as integral part of marketing process.

2520:221 Marketing Projects (3 Credits)
Prerequisite: 2520:203. Students will prepare marketing projects by applying knowledge and skills learned in previous marketing courses.