

# ACCOUNTING AND BUSINESS INTELLIGENCE & ANALYTICS

## Accounting

The curriculum for the degree of Bachelor of Science in Business Administration (BSBA) with Accounting as the major field of concentration is concerned with conceptual understanding of accounting and accounting competence. The objective is to enable the student to comprehend the functions of accounting and the underlying concepts of accounting theory, and apply accounting knowledge to business problems. The program is designed to prepare students for professional certification and leadership in the community and professional accounting careers in a variety of settings - public accounting, internal auditing, managerial accounting, accounting systems and analytics, and governmental accounting. In addition, students have the foundation to pursue positions in tax compliance and consulting, and business and systems consulting services. The program is an excellent preparation for further graduate or professional school studies.

### Program History

The Accounting Program in the Heider College of Business has been separately accredited by AACSB International since that organization began separate accreditation of accounting programs in 1982. The program has been nationally recognized for the quality of its offerings, its faculty, and its graduates. The majority of students enrolled in the undergraduate program are prepared to sit for the Uniform CPA Examination within four years. The program also offers a Master of Accounting (MAC) degree. The Creighton MAC has two tracks: 1) the traditional graduate track for students entering the program after completion of a baccalaureate degree and 2) the accelerated track for Heider College of Business undergraduate students who complete all requirements for both the BSBA in accounting and the MAC in a continuous 4-year period.

### Accounting Program Mission Statement

The Creighton University Department of Accounting exists for students and learning. In the Jesuit tradition, we provide a value-centered, quality accounting education to prepare our students to excel in careers in accounting and business and to become leaders in their profession, in their organizations, and in their communities.

## Business Intelligence & Analytics

The degree of Bachelor of Science in Business Administration (BSBA) with Business Intelligence & Analytics (BIA) as the major field of concentration is designed to combine the study of fundamental technical concepts of computer-based business information processing systems with a broad consideration of the organizational and behavioral issues associated with the design and management of such systems. It is designed to prepare students for careers in all areas of information management. Substitution for BIA courses may be made only with the approval from the major advisor and department chair. Student majoring in BIA can choose from three tracks:

- Business Analytics
- Digital Media and Design
- Information Technology

Majors in Accounting

- Accounting (<http://catalog.creighton.edu/undergraduate/business/accounting-bia/accounting-bs/>)

Majors in Business Intelligence & Analytics

- BIA:Business Analytics Track (<http://catalog.creighton.edu/undergraduate/business/accounting-bia/business-analytics-bs/>)
- BIA:Digital Media Design Track (<http://catalog.creighton.edu/undergraduate/business/accounting-bia/bia-digital-media-design/>)
- BIA:Information Technology Track (<http://catalog.creighton.edu/undergraduate/business/accounting-bia/bia-information-technology/>)

BSBA/Master's Accelerated Programs

- Accelerated BSBA-Accounting + MAC (Master of Accounting) (<http://catalog.creighton.edu/undergraduate/business/accounting-bia/bsba-acc-mac-amp/>)

Minors in Accounting and BIA

- Applied Information Technology (<http://catalog.creighton.edu/undergraduate/business/accounting-bia/applied-it-minor/>)

## Courses

### ACC 201. Introduction to Financial Accounting. 3 credits. FA, SP, SU

The course includes a thorough discussion of the fundamental principles of financial accounting with an emphasis on the corporate form of a business entity. These principles are studied in connection with financial accounting systems, and are taught with the use of assigned problems and questions. Information technology and various other means are used for problem solving and to study the applications of the basic principles as they relate to financial statement preparation and understanding. P. Open to all students who have completed a minimum of 15 semester hours of college credit.

### ACC 202. Introduction to Managerial Accounting. 3 credits. FA, SP, SU

The course includes a thorough discussion of the fundamental principles of managerial accounting with an emphasis on traditional and modern cost measurement, recording, and reporting systems to support managerial decision making. Specific managerial accounting topics covered include cost and revenue classification approaches; planning and control techniques, including operational budgeting; cost behavior analysis; cost-volume-profit analysis; and product costing, including activity-based costing. Also included in the course is coverage of the statement of cash flows, financial statement analysis, and individual and corporate income taxes. Information technology and various other means are used for managerial problem solving. P. ACC 201; Sophomore standing.

### ACC 313. External Financial Reporting Issues. 3 credits. FA

The course involves an intermediate study of external financial reporting for a commercial merchandising enterprise. Emphasis is placed on understanding the four (or five) financial statements presented in an audited set of financial statements, including an in-depth examination of earnings per share and the statement of cash flows. Financial reporting guidance related to measurement attributes, cash, receivables, and merchandise inventory are examined in detail. Students are required to begin to use the Financial Accounting Standards Board Codification as a research tool for problem solving. Students are also required to demonstrate computer spreadsheet skills for assessing and solving problems in unstructured business settings. P. A grade of "C" or better in ACC 201, ACC 202, and junior standing; or approval of department chair.

**ACC 315. Managerial Accounting for Decision Making. 3 credits. FA, SP**

The course includes a study of cost and managerial accounting issues, including costing systems, cost-volume-profit analysis, operational budgeting, and cost allocation. The course highlights the importance and significance of cost data for management decision making. Current topics and cost accounting techniques used in industry and the private business sector are presented. P. A grade of C or better in ACC 202; completion of at least 45 hours of college credit.

**ACC 319. Intermediate Accounting II. 3 credits. SP**

The course involves an in-depth study of the theory and concepts of external financial reporting with the emphasis placed on corporations. Financial accounting standards and practices related to property, plant, & equipment, intangible assets, current liabilities, investments in securities, stockholders' equity, and leases (from the lessee's standpoint) are examined in detail. Analysis of corporate financial statements is studied. Financial accounting standards and practices for governmental entities are also examined in depth. Students are required to use the Financial Accounting Standards Board Codification and the GASB Governmental Accounting Research System Online as a research tool for problem solving. Students are also required to demonstrate computer spreadsheet skills—including the use of spreadsheet financial functions—for assessing and solving problems in unstructured business settings. P. ACC 313 and junior standing or approval of department chair.

**ACC 323. Auditing. 3 credits. FA**

This course provides an introduction to the auditing profession, an overview of the concepts and logic of the auditing process, and an orientation to the tasks and procedures involved in an audit. Emphasis is placed on analytical and critical thinking, the exercise of professional judgment and professional skepticism, the evaluation of risks and controls, and how auditors serve the public interest. Ethical issues and the expanding role of assurance services are considered. P. ACC 313 and junior standing or approval of department chair.

**ACC 343. Federal Tax Accounting I. 3 credits. SP**

This introductory course in federal income taxation incorporates a major service learning experience to reinforce knowledge developed through traditional and online pedagogies. Study of the concepts of income, deductions, tax entities, credits, tax determination, procedural rules and property transactions as applied to individuals is emphasized, although there is some coverage of corporate entities. Policy reasons supporting technical rules and applications are developed where appropriate. A tax planning approach is integrated throughout the course, and electronic tax research methodology is used to solve a variety of common tax planning situations. P. ACC 202 and junior standing, or approval of department chair.

**ACC 366. Internships in Accounting. 3 credits. FA, SP, SU**

The course is designed to provide students with practical accounting experience by applying accounting concepts and technical skills learned in the classroom. It requires 150 hours with an employer, designated class meetings, written assignments, and oral presentations. Although the department will try to help a student obtain an accounting internship, the responsibility for finding the internship lies with the student. The course is graded satisfactory/unsatisfactory and may be taken only once. Enrollment is limited. P. Second semester junior or higher standing in the Heider College of Business only.

**ACC 377. Accounting Information Systems. 3 credits. FA, SP**

An introduction to the design and use of computer-based information systems in accounting. Topics addressed include computer-based accounting systems, databases, accounting cycles, technology reporting standards (e.g., XBR), computer fraud and abuses, control frameworks, trust services framework, and internal controls in and auditing of computer-based systems. P. ACC 202; BIA 253; junior standing or approval of department chair.

**ACC 461. Contemporary Professional Practice Issues in Accounting, Auditing, and Taxation. 3 credits. SP**

This course will build on the student's internship experiences and continue his or her transition to becoming an accounting, auditing, and/or tax professional. The course is designed to improve a student's accounting, auditing, tax, and business professional skills. Course topics will be covered via selected readings and/or formal presentations. Some topics may be covered via on-line activities. Presentations will be led by accounting faculty and/or practicing accountants. P. ACC 313; not open to students who have previously enrolled in an internship for credit. CO: ACC 466 or ACC 467.

**ACC 466. Cooperative Internship in an Accounting Discipline. 6 credits.**

This course involves an intensive, supervised, professional cooperative internship in professional accounting. The internship will extend for a term of 10-12 weeks of full-time employment during the spring semester only, with the expectation that the student will work for a minimum of 600 hours during the internship period. The sponsoring organization will be expected to document that the student has participated in the required professional service areas outlined in the agreement between the firm and the course supervising faculty member. The student also will be expected to reflect on these experiences in a suitable format under the supervision of the assigned faculty member. P. ACC 323; not open to students who have previously enrolled in an internship for credit; CO: ACC 461.

**ACC 467. Cooperative Internship in Taxation Services. 6 credits. SP**

This course involves an intensive, supervised, professional cooperative internship in the taxation services practice of an approved partner CPA firm. The internship will extend for a term 10-12 weeks of full-time employment during the spring semester only, with the expectation that the student will work for a minimum of 600 hours during the internship period. The partner CPA firm will be expected to partner with the supervising faculty member to ensure the student has participated in the required professional service areas outlined in the agreement between the firm and the course supervising faculty member. P. ACC 313; not open to students who have previously enrolled in an internship for credit. CO: ACC 343; ACC 461.

**ACC 491. The Financial and Accounting World: A Campus and Travel Course. 3 credits. W**

A course designed to provide students with on-site understanding of accounting and financial processes to complement campus-based study of the same topics. The course includes up to 20 hours of on-campus study prior to the travel portion of the course that will comprise of up to 30 hours of study with experts in the field. The travel portion of the course may involve various destinations. P. Senior standing; six hours of upper-level accounting courses.

**ACC 493. Directed Independent Readings. 1-3 credits. OD**

This is a directed readings course that investigates current developments in accounting theory and/or practice. The course permits individual students to pursue areas of interest within the field of accounting in greater depth than is covered in the normal curriculum. It also permits a student to do independent research on a specialized topic not ordinarily treated in regular course offerings. P. Senior standing; department consent and Dean's approval.

**ACC 497. Directed Independent Research. 1-3 credits. OD**

Supervised independent research on topics beyond the regular course coverage. Course is limited to students who have a QPA or 3.0 or better. May be repeated for credit to a limit of six hours. P. Senior standing; department consent and Dean's approval.

**ACC 516. Advanced Cost Accounting. 3 credits. FA**

The course covers advanced managerial accounting topics, such as process costing, management control systems, activity-based costing and activity-based management, joint cost allocation, balanced scorecard performance measures. The course deals with the need to adapt traditional management accounting methods as changes take place in the new business environment. The sources of change include the continued movement away from manufacturing and into the service industry, the globalization of business, information technology, and the need for more nonfinancial measures of evaluation. P. ACC 315 and senior standing. May be taken for graduate credit upon completion of department approved graduate level work products.

**ACC 521. Advanced Accounting. 3 credits. SP**

This course involves the study and application of financial reporting concepts to specialized accounting problems and cases. Coverage includes accounting for nonprofit entities, accounting for income taxes, reporting of business combinations, preparation of consolidated financial statements, and accounting changes. P. ACC 319 and senior standing, or approval of department chair. May be taken for graduate credit upon completion of department approved graduate level work product.

**ACC 523. Advanced Auditing. 3 credits. SP**

This course integrates prior accounting and other educational experiences with advanced application of auditing concepts and standards. P. ACC 323 and senior standing. May be taken for graduate credit upon completion of department approved graduate level work product.

**ACC 538. International Accounting. 3 credits. SP**

An overview of accounting issues faced by multi-national firms. The course will focus on the challenges accountants and managers face when organizations produce, market or provide services in foreign cultures. P. ACC 202; junior standing.

**ACC 544. Advanced Taxation. 3 credits. FA**

An advanced consideration of federal taxation concepts relating to corporations, partnerships, estates and trusts, as well as consideration of wealth transfer taxes. Emphasis is on recognition of fact patterns producing taxable events and on planning to minimize taxes. May be taken for graduate credit upon completion of department approved graduate level work product. P. ACC 343.

**ACC 577. Advanced Accounting Information Systems and Accounting Analytics. 3 credits. FA, SP**

This course covers how to use data to formulate and solve business problems from an accounting paradigm. Students will extract value from big data through the application of current analytics tools. This course develops objective accounting decision-making skills to help the accounting professional become a forward-thinking strategic partner in the organization. This course develops the skill set needed to think critically using available data. The course will also expose students to common currently used business intelligence software packages. P. ACC 377, junior standing or approval of department chair. May be taken for graduate credit upon completion of department approved graduate level work product.

**ACC 579. Seminar in Accounting. 3 credits. OD**

Exploration and analysis of selected problems and issues in the accounting area of today's environment. Course content changes from semester to semester. This course is repeatable as long as topic differs (12 credits). P. ACC 201; ACC 202; senior standing.

**BIA 253. Management Information Systems. 3 credits. FA, SP**

An introduction to the field of management information systems and business intelligence and analytics, and their role in today's organizations. The course focuses on key concepts including fundamental enabling technologies, database, software development, decision support and knowledge work-support systems as well as MIS systems for operations, control, and strategic planning. The organizational foundations of systems, their strategic role, and the technologies driving change in the business processes will be discussed. P. Sophomore standing.

**BIA 261. Business Analytics. 4 credits. FA, SP, SU**

Students develop and apply understanding of fundamental multivariate statistical methods through which organizations can use data to gain insights and make better decisions. Throughout the course, students will learn and practice skills of data presentation and storytelling that contribute to decision-making in a business context. Topics include multiple regression, time series analysis, and data preparation. P. MTH 161; MTH 141, MTH 231, or MTH 245.

**BIA 350. Systems Analysis and Design. 3 credits. FA, SP**

This course will provide a study of the information systems development life cycle with emphasis on the planning, analysis, and design phases of systems development. Feasibility analysis, requirements determination, requirements structuring, logical and physical design, and implementation planning will be addressed. The course will explore the various methodologies, techniques, tools, and models used by systems analysts, including process modeling, data modeling, and designing the user interface. P. BIA 253.

**BIA 354. Data and Information Management. 3 credits. FA, SP**

Course develops both skill and knowledge relative to data base design and management. P. BIA 253.

**BIA 366. Business Intelligence and Analytics Internship. 3 credits. FA, SP, SU**

This course is designed to award credit to students for major-related significant practical business experience. A qualifying internship should allow students to apply higher-level concepts and technical skills learned in the classroom to real work settings, and must be secured before a student registers for the class. Students must work 150 hours during a semester and complete all online course requirements, including readings, discussions, a performance evaluation from their supervisor and a paper that reflects upon their achievements. The course is graded on a satisfactory/unsatisfactory basis and only 3 hours of internship credit may be used to satisfy graduation requirements. P. Completion of at least 80 credit hours in the Heider College of Business; instructor consent.

**BIA 372. Survey of Business Intelligence and Analytics. 3 credits.**

Business Intelligence (BI) and Data Analytics are at the forefront of modern business management. This course explores the fundamental sources of BI and surveys the new frontiers of data management and analytics, while introducing techniques and tools used to transform data into actionable information. P. BIA 253 and BUS 229 or BIA 261 or instructor consent.

**BIA 375. Business Application Development. 3 credits. FA**

This course provides students with an introduction to business application development using object-oriented programming. The key concepts covered by this course include algorithms and their relationship to basic object-oriented programming concepts, objects and classes, control structure, input and output, exception handling, expressions, and graphic interface design. P. BIA 354 or instructor consent.

**BIA 385. Python Programming for Data Analytics. 3 credits. FA, SP**

This course provides an introduction to coding and logical programming thinking using Python. Several Python data analytics libraries, including Pandas, NumPy, Seaborn, and Matplotlib will be introduced. Prereq: BIA 253 or instructor consent.

**BIA 450. Blockchain. 3 credits.**

Blockchain is the underlying technology supporting cryptocurrencies like Bitcoin, Ripple, and Ethereum, but its applications go beyond cryptocurrencies. This course provides a study of how blockchain technology works and considers its potential disruptive impact on business and society. P. BIA 253; FIN 301.

**BIA 464. Decision Support and Expert Systems. 3 credits.**

Concepts needed to develop skills in designing and using decision support systems and expert systems in the context of business decision making. P. BIA 253; senior standing.

**BIA 470. Data Communications and Networks. 3 credits.**

This course provides an introduction to the concepts and terminology in data communication, networks, network design, and distributed information systems. These topics include equipment, protocols and architectures, transmission alternatives, the communication environment, regulatory issues, and network pricing and management. A combination of lectures, discussions, presentations, and student projects will be used to understand the dynamic field of data communications and issues surrounding it. P. BIA 354 or instructor consent.

**BIA 472. Visual Analytics and Visualization. 3 credits.**

The general field of visualization focuses on transformations of data to visual representations in order to take advantage of human cognitive capabilities to more efficiently and effectively understand the story being told by the data. Specifically, visual analytics, an advanced form of visualization, is used to understand complex and large-scale data. In this course, students will be introduced to the fundamentals of visualization and the related user experience in producing and interpreting visualizations of business data. Student will also learn to use selected visual analytic tool(s) to conduct various types of analyses. P. BUS 229 or BIA 261 and BIA 354 or instructor consent.

**BIA 476. Cybersecurity. 3 credits.**

This course will provide students with a solid technical understanding of cybersecurity or computer security. Students will gain an understanding of security concepts and explore a variety of technical tools that cover a wide range of security topics including governance, network security, database security, application security, cryptography, access controls, and incident and disaster response. P. BIA 354 or instructor consent.

**BIA 479. Seminar in Decision and Information Technology. 3 credits. FA, SP**

The integration and application of current topics in management science, systems analysis and design, or computer and communication technology with a focus on improving decision-making effectiveness in a real-world environment. Past seminar topics include: Web Technologies, Java Programming, E-Business, Business Data Mining, Computer System Architecture and Organization, Neural Networks, Human Factors in IS, and Wireless Technologies. This course is repeatable as long as topic differs (12 credits). P. BIA 253.

**BIA 480. Business Analytics. 3 credits. FA, SP**

Use of statistical techniques to identify, measure, and quantify uncertainty and risk in modern business data. Topics include a variety of interval estimates, cluster analysis, and alternative regression methods as well as an introduction to the use of simulation and Monte Carlo methods to assess risk and assist decision-making. P. BUS 229 or BIA 261.

**BIA 481. Web Technologies. 3 credits.**

As the interest in websites becomes more widespread, so have peoples' expectations. It is increasingly obvious that the functionality provided by HTML is insufficient. This is particularly true as more and more websites are used to interact with databases. Many scripting and actual programming languages and environments such as CGI, Javascript, Flash, and Flex are being turned to as they can provide the added functionality demanded by today's commercial websites. This course will explore these and other technologies and use them to create websites. P. Senior standing or instructor consent.

**BIA 482. Wireless Technology and Mobile Commerce. 3 credits.**

The purpose of this course is to explore the impact of wireless and mobile e-commerce on the ways in which business is conducted in this electronic era, as well as the technologies involved in developing systems that will support this new way of doing business. This exploration is designed to give the student: a) an appreciation for the use of wireless technologies in achieving business objectives and changing the way business strategies are being implemented, b) an understanding of the various technologies used in mobile e-commerce, and c) technical skills for developing and deploying wireless and mobile e-commerce systems. This course aims to provide the student with a balanced coverage on both the managerial and technical issues relevant to wireless and mobile e-commerce. Upon finishing the course, the student is expected to have a good grasp on the strategic, managerial and technical issues in the design and implementation of wireless and mobile e-commerce systems. P. BIA 253; BIA 375.

**BIA 483. Managing Information Resources. 3 credits.**

This course focuses on the managerial issues faced by business and information systems (IS) managers in today's technology rich business environment. Special emphasis is placed on information as a critical resource and on its role in policy and strategic planning. The course discusses the issues and techniques relevant to the effective management of information resources. It will take a broad perspective by examining the internal, external, and strategic planning issues involved in IS resource management. The course will also use Harvard Business School cases and other cases to explore the managerial, technical, behavioral issues relevant to IS resource management. P. BIA 253 or equivalent.

**BIA 484. Data Mining Techniques. 3 credits.**

The purpose of this course is to deal with the issue of extracting information and knowledge from large databases. The extracted knowledge is subsequently used to support human decision-making with respect to summarization, prediction, and the explanation of observed phenomena (e.g. patterns, trends, and customer behavior). Techniques such as visualization, statistical analysis, decision trees, and neural networks can be used to discover relationships and patterns that shed light on business problems. This course will examine methods for transforming massive amounts of data into new and useful information, uncovering factors that affect purchasing patterns, and identifying potential profitable investments and opportunities. P. BIA 253; BUS 229 or BIA 261.

**BIA 485. Applications of Artificial Intelligence. 3 credits.**

The course will provide a survey of the theory and applications of artificial intelligence in the business decision environment, with an emphasis on artificial neural networks. Students will engage in reviews of current expository and research literature in the area and will attain hands-on experience with computer packages supporting the creation of these types of systems. Neural network design projects will be required of all students. P. MTH 245, BIA 253, BIA 375 and senior standing.

**BIA 486. Managerial Decision Modeling. 3 credits.**

This course constitutes an introduction to several basic, widely applicable analytical problem-solving methods, including linear programming, network analysis, decision analysis and Monte Carlo simulation. Course coverage places emphasis on developing an ability to represent business problems in a formal framework, allowing for the application of analytical methods in support of decision-making, and on critical interpretation of the results of such decision analysis, in the context of business management. As part of this coverage, students work extensively on solving problems with MS Excel. P. BIA 253; BUS 229 or BIA 261.

**BIA 491. The Technology World: A Campus and Travel Course. 3 credits. OD**

This course is designed to provide a capstone travel experience in which students make on-site visits to a variety of organizations known for their business leadership and innovative practice in the field of business intelligence and analytics. The overall aim is to complement a student's campus-based study of business technology concepts, processes, and activities - as well as exemplar organizations. The course typically includes approximately 15 hours of on-campus study prior to and after the travel portion of the course. The travel portion of the course may involve various destinations. A student in the Heider College of Business may only count up to six credit hours of travel courses toward their 128 credit hour program of study. P. Instructor consent.

**BIA 493. Directed Independent Readings. 1-3 credits. OD**

This is a directed readings course that investigates current developments in management information systems. The course permits individual students to pursue areas of interest within the field of management information systems in greater depth than is covered in the normal curriculum. It also permits a student to do independent research on a specialized topic not ordinarily treated in regular course offerings. P. QPA of 3.0 or better; senior standing; department consent and Dean's approval.

**BIA 497. Directed Independent Research. 1-3 credits. OD**

Supervised independent research on topics beyond the regular course coverage. Course is limited to students who have a QPA or 3.0 or better. P. Senior standing; department consent and Dean's approval.

**BIA 499. Practicum in Business Intelligence & Analytics. 1 credit. FA, SP**

This course is designed to provide students with practical understanding and exposure to business applicability of concepts, methods and techniques in BIA. Students attend lectures and seminars, visit businesses, and participate in dialogues with business leaders to further their understanding of BIA. Students keep a journal of their reflective thoughts after attending lectures, discussions, and interactions with industry representatives. This course is graded satisfactory/unsatisfactory. This course can only be taken once for credit and cannot be repeated. P. At least one BIA course at 300 level or above, instructor consent.