Computer Science and Business (CSB)

Courses

CSB 242 Blockchain Concepts and Applications 3 Credits
Blockchain is the technology underlying Bitcoin, along with other digital currencies, and a data-management technology applicable broadly in finance, accounting, marketing, supply-chain, and "smart" contracts. It offers the ability to decentralize financial transactions, automate record keeping, and increase privacy. This course gives students the basis for understanding the technological foundations of blockchain and the business impact of blockchain.
Prerequisites: ECO 001 and (BIS 111 or CSE 003 or CSE 007 or CSE 012) and (CSE 017 or MKT 111 or FIN 125 or SCM 186)

CSB 256 Computing/Business Seminar 3 Credits
Business, technical, and cultural aspects of developing, managing, and marketing computing products from the perspectives of researchers, developers, and management. Influences of patents, open source, corporate- and government-funded research, and standards. Case studies show why the best technology may not always win, unexpected impact of technical disruptions, advantages and pitfalls of technical leadership versus "following aggressively", etc. Studies include startups, mature companies, corporate R&D labs, and academic labs. Course relates to both specific computer-related technology, and current business events.
Prerequisites: ECO 001 and (CSE 109 or CSE 241 or CSE 341)

CSB 273 Leveraging Technology 3 Credits
Explores the types and manner in which technology can improve business outcomes. Lectures and assigned readings cover topics such as business context for leveraging technology, various common and disruptive technologies, and estimating ROI. Using consulting engagements and/or real-world scenarios, students develop and present proposals based on their acquired knowledge. Emphasis is placed on learning how to discover opportunities, determine technologies to address those opportunities, and correlate the application of technology to business metrics to garner the support of decision-makers.
Repeat Status: Course may be repeated.
Prerequisites: CSE 012 or CSE 017 or BIS 111

CSB 304 (ENTP 304) Technology and Software Ventures 3 Credits
Designed from the perspective of functional leaders, course provides a holistic perspective of developing successful software ventures across various industries in an interdisciplinary and experiential environment. Students develop a software-oriented idea, concurrent with module delivery containing best practices, case studies, and subject-matter experts. Examines business model fundamentals, customer discovery, translating requirements to a minimum viable product, agile development, user acquisition, and traction. ENTP Capstone. Prior programming experience or technical background not required. Open to students in any college and major.
Prerequisites: ENTP 101 or CSE 002 or BIS 111

CSB 311 Advanced Accounting Information Systems 3 Credits
Application of computer technology to accounting information systems. Transaction processing systems that support the revenue, conversion, and expenditure cycles of manufacturing, service, and retail business organizations. Topics include process modeling, data modeling, internal controls, corporate IT governance, IT audit techniques, SAP and application of Generalized Audit Software.
Prerequisites: (ACCT 152 or ACCT 108) and (CSE 241 or CSE 341)
Can be taken Concurrently: CSE 241, CSE 341

CSB 312 Design of Integrated Business Applications I 3 Credits
Integrated Product Development (IPD) Capstone I. Industry-based business information systems design project. Information systems design methodology, user needs analysis, project feasibility analysis of design alternatives, and integrated product development methodology. Formal oral and written presentations to clients.
Prerequisites: CSB 311 and (CSE 241 or CSE 341) and CSE 216
Can be taken Concurrently: CSB 311

CSB 313 Design of Integrated Business Applications II 3 Credits
Integrated Product Development (IPD) Capstone Course II. This course extends the industry-based project initiated in CSB 312 into its implementation phase. Detailed design, in-house system construction and delivery, commercial software options, and systems maintenance and support. The practical component of the course is supplemented by several classroom-based modules dealing with topics that lie at the boundary of computer science and business. Formal, oral, and written presentations to clients.
Prerequisites: CSB 312

CSB 314 International Practicum 3 Credits
A faculty led, foreign-based activity to provide students the opportunity to work on consulting, assurance, or other IT–related projects with business organizations, consulting companies, and public accounting firms. Typical projects: systems analysis and design, systems configuration and implementation, database design, user interface design, and internal control assessment. Students complete written reports and make formal presentations to client firms.

CSB 389 Honors Project 1-12 Credits

CSB 392 Independent Study 1-3 Credits
An intensive study, with report, of a topic spanning both business and computer science that is not treated in any other courses.
Repeat Status: Course may be repeated.

CSB 442 Blockchain: Mathematical Foundations and Financial Applications 3 Credits
Technical and mathematical foundations of blockchain (algorithms, data structures, cryptography) with application to finance. Blockchain properties (immutability, irrefutability), security, consensus (proof-of-work, proof-of-stake, Byzantine consensus). Blockchain governance and trust models. Blockchain and finance: policy, regulation, compliance, systemic risk, relative power of nation-states, the role of central banks, economic justice. Broader impacts in such areas as foreign policy, surveillance and individual freedoms, non-financial applications. Smart contract coding and issues in blockchain software development. Lab experience interacting with a blockchain.
Prerequisites: MATH 021 and FIN 125 and (CSE 007 or CSE 012 or CSE 017)