Computer Science and Business (CSB)

Courses

CSB 242 Blockchain Concepts and Applications 0,3 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 310 Product Development and Entrepreneurship in Technology 3 Credits
This course integrates computer science and business concepts, focusing on product management, entrepreneurship, and startup methodologies. Students will work in teams to identify business problems, develop innovative software solutions, create business plans, and build proof-of-concept prototypes. Through case studies, hands-on projects, and real-world applications, students will gain practical experience in bringing a technology product from ideation to market-ready stage.
Prerequisites: (ACCT 108 or ACCT 152) and (CSE 241 or CSE 341)
Can be taken Concurrently: CSE 241, CSE 341

CSB 312 Design of Integrated Business Applications I 3 Credits
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 310 and (CSE 241 or CSE 341) and CSE 216
Can be taken Concurrently: CSB 310

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)