BME 440 Biomedical Engineering Design
Introduction to product development from the perspective of solving biomedical, biotechnological, environmental, and ergonomic problems. Teamwork in design, establishing customer needs, writing specifications, and legal and financial issues are covered in the context of design as a decision-based process. A semester-long team design project follows and provides the opportunity to apply concepts covered in class. 
Prerequisites: BME major; U4 standing; BME 301 and 305 
3 credits

BME 441 Senior Design Project in Biomedical Engineering
Formulation of optimal design problems in biomedical and physiological settings. Introduces optimization techniques for engineering design and modeling for compact and rapid optimization of realistic biomedical engineering problems. Necessary conditions for constrained local optimum with special consideration for the constraints in which the product designed should function in terms of the settings (corporeal, ex-corporeal, biological, etc.) and the safety considerations involved which are unique to biomedical engineering. Students carry out the detailed design of projects chosen early in the semester. A final design report is required. 
Prerequisite: BME 440 
3 credits

BME 461 Linear Systems Analysis with Biomedical Applications
Fundamentals of the linear time series analyses framework for modeling and mining biological data. Applications range from cardiorespiratory; renal blood pressure, flow, and sequence; to gene expression data. Tools of data analysis include Laplace and Z transform, convolution, correlation, Fourier transform, transfer function, coherence function, various filtering techniques, and time-invariant and time-varying spectral techniques. 
Prerequisites: BME 212 and 301 
3 credits

BME 475 Undergraduate Teaching Practicum
Students assist the faculty in teaching by conducting recitation or laboratory sections that supplement a lecture course. The student receives regularly scheduled supervision by the faculty instructor. May be used as an open elective and repeated once. 
Prerequisites: BME major; U4 standing; a minimum gpa of 3.00 in all Stony Brook courses and a grade of B or better in the course in which the student is to assist; or permission of the department
3 credits

BME 481 Biosensors
A comprehensive introduction to the basic features of biosensors. Discusses types of most common biological agents (e.g. chromophores, fluorescence dyes) and the ways in which they can be connected to a variety of transducers to create complete biosensing for biomedical applications. Focus on optical biosensors and systems (e.g. fluorescence spectroscopy, microscopy), and fiber-optically based biosensing techniques. New technologies such as molecular beacons, Qdots, bioMEMs, confocal microscopy and multiphoton microscopy, and OCT will be referenced. 
Prerequisites: BIO 202 or 203; ESE 271 
3 credits

BME 499 Research in Biomedical Engineering
An independent research project with faculty supervision. 
Prerequisites: B average in all science courses; permission of instructor and department 
0-3 credits
BUS 348 Principles of Marketing
Basic marketing concepts and their applications. Issues include strategy, market segmentation, individual consumer behavior, marketing research, promotion, pricing, and international marketing. The emphasis is on analysis of the challenges facing business with respect to all relevant constituencies, including the company in general, managerial colleagues across functional areas, consumers, stockholders, and government.
Prerequisites: BUS 110; AMS 102; MAT 122 or 123; ECO 108 or 109; BUS major or minor or ISE major
3 credits

BUS 350 Internet Marketing
Examines two intimately related issues: the impact of E-Commerce on businesses and the use of computer-mediated (Internet) marketing. Student develop an awareness and understanding of relevant issues, advantages and disadvantages, and specific techniques involved in using the Internet as a marketing vehicle. Emphasis on using the Internet as a tool for marketers to increase effectiveness, efficiency, and competitiveness of distribution, advertising, brand building, pricing, promotions, new product development, customer service, and market research.
Prerequisites: BUS 110; BUS 340; BUS 348; BUS major
3 credits

BUS 351 Human Resource Management
Major trends in personnel management, including problems and issues faced by organizations and individuals in times of change. Responsibilities of the human resources department and the roles that every manager plays, both as a supervisor and as a client of the human resources department, are studied. Topics include human resources forecasting and planning job design, employee selection, test development and validation, equal employment opportunity laws and judicial rulings, performance appraisal, compensation, benefits, career development, safety, and labor relations.
Prerequisites: BUS 110; U3 or U4 standing
3 credits

BUS 352 Electronic Commerce
Introduction to Internet backbone and security. Business-to-Business (B2B) development and Business-to-Consumer (B2C) marketing.
Prerequisites: BUS 110; BUS 340; BUS 346; BUS 348; BUS major
3 credits

BUS 353 Entrepreneurship
The essential qualities of new and growing enterprises are examined. Examples of both successful and failed new ventures are given by entrepreneurs. Students develop a business plan for their own business and present it to venture capitalists for their expert analysis.
Prerequisites: BUS 110; BUS 210; BUS 348; BUS major
3 credits

BUS 354 Understanding Business Agreements
Provides students with an understanding of legal documents in business and the business transactions behind them. Students review many types of legal documents likely to be encountered in a business career. Includes: agreements between business partners (stockholders and partnership agreements); technology and employment related agreements (confidentiality, employment, and joint development agreements); and commercial transactions (sales, loan, and acquisition agreements).
Prerequisites: U3 or U4 standing; BUS or CEAS major
3 credits

BUS 355 Investment Analysis
The theoretical and empirical study of financial markets. Topics include portfolio selection, asset pricing, market efficiency, evaluation of fixed income securities, options, and futures pricing.
Prerequisites: BUS 110; BUS or ECO or ISE major
3 credits

BUS 356 Financial Engineering
Prerequisites: BUS 110; BUS or engineering major
3 credits

BUS 357 Principles of Sales
Presents the skills to be successful in an extremely competitive business sales environment. Includes customer qualification, customer sales message, sales demonstration, handling objections, closing techniques, and telemarketing and customer service activities.
Prerequisite: BUS 348
3 credits

BUS 358 Marketing Research
Introduces marketing research tools that aid managers in marketing decision-making and how the marketing research process can be used to collect and analyze data and information to solve marketing problems. A strong applied orientation exposes students to marketing research in traditional areas such as market segmentation, product positioning, product design, brand perception, and sales forecasting, as well as emerging areas including customer satisfaction, customer relationship management (CRM), and online marketing.
Prerequisites: BUS major; BUS 110; BUS 348
3 credits

BUS 380 Honors-Research Methods
Prepares students to perform appropriate statistical analyses of data relevant to their chosen research project. Demonstrates the applications of statistical analysis in business practice and research. Students learn to perform standard analyses using a statistical software package and to become educated consumers of statistical analyses performed by others.
Prerequisite: BUS 380
3 credits

BUS 388 Honors-Research in Finance
Focus on understanding how firms meet and manage their financial objectives. Current financial environment, institutions and markets, risk and return, valuing future cash flow, and corporate securities including stocks and bonds. Financial tools and techniques such as capital budgeting, used by firms to maximize value through better decisions relating to capital. Case studies and class discussion seeking an innovative approach to finance concepts and towards integration of concepts for research.
Prerequisites: Admission to the honors program in business management; BUS 110, 210, 249, and 340
3 credits

BUS 389 Honors Research in Marketing
Introduces students to the research process in marketing and explains how it is used to collect and analyze information to solve marketing problems. Hands-on experience with the marketing research process including design and implementation of a market research project and doing multivariable statistical data analysis. Provides the opportunity to learn a variety of research techniques as well as to use statistical software packages to analyze data, interpret results, and present a final paper.
Prerequisites: BUS 210; BUS 248; BUS 340
3 credits

BUS 390 Special Topics in Business Management
Semester supplements to this Bulletin contain specific description when course is offered. May be repeated for credit as the topic changes.
Prerequisites: BUS major; U3 or U4 standing
3 credits

BUS 440 International Management
Analysis of international competition, markets, cross-cultural relations, and change and stability in various countries and in the global economy. Managerial techniques for U.S. firms in international settings are included.
Prerequisites for BUS majors: BUS 300; U4 standing
Prerequisite for ECO and MTD majors: U4 standing
3 credits
BUS 441 Business Strategy
Capstone course that builds on tools and concepts introduced in more specialized business courses and on students' general business knowledge. Includes: methods for analysis of forces driving competition; identification of strengths, weaknesses, opportuni-
ties, and threats faced by individual corporations; and practical strategies for enabling new or existing firms to compete successfully within an industry. Case studies and in-class situations challenge stu-
dents to develop skills in handling multidimensional business problems.
Prerequisites for BUS majors: BUS 300; U4 standing
Prerequisite for BUS minors, ECO majors, and MTD majors: U4 standing
3 credits

BUS 450 Analysis and Design of Business Information Systems
Businesses and organizations develop information systems as a way to solve business problems or to cap-
talize on business opportunities. Hence, systems analysis is about business problem solving. Emphasis
on important skills for the systems analyst such as fact-finding, communications, project management,
and cost-benefit analysis. Presents analysis process and business information systems design. Focus on
analyst's tools and techniques to document informa-
tion systems development. Classical and object-ori-
ented techniques for describing data flow, data struc-
ture, and process flow.
Prerequisites: BUS 110; BUS 340; BUS major
3 credits

BUS 460-461 Senior Business Project I, II
Two-semester course sequence in which students form teams with engineering students to develop a
business plan for the engineering senior design pro-
ject. In BUS 460 (fall semester), BUS students create and monitor a project plan and perform market
research for the engineering project, provide input to the design phase to maximize market satisfaction,
and develop a marketing plan. In BUS 461 (spring semes-
ter), students prepare a detailed operations and finance plan. The final project consists of written and
oral presentations of the complete business plan. Final
grade for both assigned upon completion of BUS 461.
Prerequisites: BUS major; U4 standing with g.p.a. of
3.00 or higher; permission of instructor
3 credits per course

BUS 475, 476 Undergraduate Teaching Practica I, II
The student assists the instructor of a business man-
gagement course by conducting office hours, partici-
pating in class discussions and business games, preparing case studies, reading and critiquing written
work, and presenting selected topics in the classroom.
The student receives regularly scheduled supervision from the instructor. In BUS 476, students are expected
to assume greater responsibility in such areas as lead-
ing discussions, analyzing results of tests that have
already been graded, and observing teaching. Students may not serve as teaching assistants in the
same course twice.
Prerequisites to BUS 475: Grade of A or A- in the
course in which the student is to assist; permission of undergraduate program director
Prerequisites to BUS 476: BUS 475 and permission of undergraduate program director
3 credits per course, S/U grading

BUS 487 Independent Research
Provides the opportunity for students to undertake a special independent project entailing advanced read-
ings, reports, and discussion, or research on a topic of their own choosing with the guidance of a faculty
member. May be repeated.
Prerequisites: Permission of instructor and undergrad-
uate program director
0-3 credits

BUS 488 Internship
Participation in local, state, national, or international
private enterprises, public agencies, or nonprofit insti-
tutions.
Prerequisites: BUS major; U4 standing; permission of undergraduate program director
3 credits, S/U grading

BUS 489, 490 Business Honors Research I, II
Students apply business research concepts and tech-
niques mastered in honors business management
courses by creating and developing a business re-
search project under faculty supervision. This work culminates in a publishable draft for inclusion in a
department journal. Research projects are presented at one of several campus research fairs. A final grade
for both BUS 489 and 490 is assigned upon completion of
BUS 490.
Prerequisites: Permission of the Department
3 credits

CAR Career Development

CAR 110 Career Development and Decision Making
Introduces students to theories of career decision-
making, and the relationship between major choice,
academic planning, and career options. Examines two
steps in the career decisions process: self-assessment
(skills, interests, values, and personality traits) and
career exploration.
Prerequisites: Satisfaction of the writing competency
skill (D.E.C. A, first course); U1 or U2 standing
2 credits

CAR 210 Career Planning
Focuses on a systematic approach to the career plan-
ing process, including goal setting, professional com-
munication, job market trends, and career research
strategies. Analyzes the value of extracurricular ser-
vice, and leadership experiences, and how to convey
this value through written and oral presentation.
Examines components of successful transition to the
workplace.
Prerequisites: Completion of D.E.C. category A; U3 or
U4 standing
1 credit

CCS Cinema and Cultural Studies

CCS 101-B Images and Texts: Understanding Culture
The images and texts of advertising, television, art,
writing, film, and performance and how they come to
characterize and shape our everyday lives. Using case
studies, students learn how to recognize, read, and
analyze culture within a particular social, cultural,
or political context, touching upon such important issues
as race, gender, class, ideology, and censorship.
3 credits

CCS 201 Writing About Culture
The course teaches research methodology, develops
critical thinking, and hones argumentative writing
skills. A range of cultural artifacts, issues, and
approaches are considered along with the ways that
various discourses appropriate or critique them.
Students gain extensive training in the methods
essential to the use of resources and to critical writing.
Prerequisite: Completion of D.E.C. category A
3 credits

CCS 301-G Theorizing Cinema and Culture
Recent trends in critical theory applied to the study of
film, television, literature, popular music, and other
types of “cultural production.” In-depth analyses of
specific literary, visual, and musical texts are situated
within structures of power among communities,
nations, and individuals. Exploration of how identities
of locality, gender, ethnicity, race, and class are nego-
tiated through cultural forms.
Prerequisite: Two courses toward the major in cinema
and cultural studies
3 credits

CCS 311-G Gender and Genre in Film
Examination of the notion of genre as a category of
analysis and its often conflictive relationship to gender
in the context of specific genres (the western, film
noir, the horror film) and film story. Attention is paid
to a particular genre’s appeal to men and/or women as
well as its relationship to larger social, cultural,
and political issues.
Prerequisite: CCS 201 or HUM 201 or 202 or THIR 117
3 credits

CCS 401 Senior Seminar in Cinema and Cultural Studies
Intensive study in a specific area of cinema and cul-
tural studies. Possible topics include a film genre, a
focused theoretical perspective, and the life and work
of an important director or artist. Semester supple-
ments to this Bulletin contain specific description when course is offered. May be repeated for credit as
the topic changes.
Prerequisites: U4 standing; CCS major
3 credits

CCS 475 Undergraduate Teaching Practicum
Work with a faculty member as an assistant in one of
the faculty member’s regularly scheduled classes. The
student is required to attend all the classes, do all the
regularly assigned work and meet with the faculty
member at regularly scheduled times to discuss the
intellectual and pedagogical matters relating to the
course.
Prerequisites: U3 or U4 standing; permission of instructor and depart-
ment
3 credits, S/U grading

CCS 487 Independent Research in Cinema and Cultural Studies
Intensive readings and research on a special topic
undertaken with close faculty supervision. May be
repeated.
Prerequisites: Permission of instructor and depart-
ment
0-6 credits

CCS 488 Internship
May be repeated up to a maximum of six credits, but
only three credits may be applied toward the cinema
and cultural studies major.
Prerequisite: Permission of program advisor
0-6 credits, S/U grading

CCS 495 Senior Honors Project in Cinema and Cultural Studies
A one-semester project for cinema and cultural studies
majors who are candidates for the degree with depart-
mental honors. The project involves completion of an
honors thesis or project under the close supervision
of an appropriate faculty member and the written and
oral presentation of the thesis or presentation of the
project to the program faculty colloquium.
Prerequisites: Permission of instructor and undergrad-
uate program director
2 credits

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