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Associate Dean

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Assistant Dean

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Assistant Dean, External Relations

Jane C. G. Usatin, Ph.D.
Director of Undergraduate Programs

External Relations
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Assistant Dean, External Relations

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Alumni Coordinator

Undergraduate Programs Center
Jane C. G. Usatin, Ph.D.
Director of Undergraduate Programs

Juliana F. Ellenburg, B.B.A.
Undergraduate Academic Advisor

Bachelor of Accountancy

Bachelor of Arts

Bachelor of Business Administration

Graduate Programs
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Director, Special Programs

Kenneth J. Marra, M.S., M.B.A.
Administrative Director of M.B.A., M.S.I.T.

Kyna A. Lunglhofer, M.S.
Director of Finance, Special Programs

Master of Business Administration

Dirk S. Yandell, Ph.D.
Faculty Academic Director

Master of International Business Administration

Denise Dimon, Ph.D.
Faculty Academic Director

Master of Science in Accountancy and Financial Management

Loren L. Margheim, Ph.D., CPA
Faculty Academic Co-Director

Diane D. Pattison, Ph.D.
Faculty Academic Co-Director

Master of Science in Executive Leadership

Gary G. Whitney, Ph.D.
Faculty Academic Director

Kurt Gering, M.Ed.
Administrative Director

Master of Science in Global Leadership

Craig B. Barkacs, M.B.A., J.D.
Faculty Academic Director

Bob Martin, Ed.D.
Administrative Director

Roger Thompson, B.A.
Assistant Director for Student Support

Master of Science in Information Technology

Carl M. Rebman Jr., Ph.D.
Faculty Academic Director

Master of Science in Real Estate

Elaine M. Worzala, Ph.D.
Faculty Academic Advisor

Lisa Chambers, M.B.A.
Associate Director

Master of Science in Supply Chain Management

David N. Burt, Ph.D.
Faculty Academic Director

Kerry Kilber
Administrative Director

Centers, Institutes, and Programs
Accountancy Institute

www.sandiego.edu/sbaaccounting

Loren L. Margheim, Ph.D., CPA
Co-Director

Diane D. Pattison, Ph.D.
Co-Director

Ahlers Center for International Business
http://business.sandiego.edu/ib

Denise Dimon, Ph.D.
Director

Cynthia Pavett, Ph.D.
Associate Director

Kira Mendez, M.A.
Coordinator, Study Abroad Program

Information Technology Management Institute
http://itmi.sandiego.edu

Carl M. Rebman Jr., Ph.D.
Faculty Academic Director

Internship Program
http://usdbusiness.sandiego.edu/intern.html

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Miriam Rothman, Ph.D.
Co-Director

Samir Chala, A.A.
Coordinator

Leadership Institute for Entrepreneurs
www.life.sandiego.edu

David Wyman, M.B.A.
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Real Estate Institute
www.usdrealestate.com

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Donn Vickrey, Ph.D., CPA
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Mechanical Engineering Program
Frank G. Jacobitz, Ph.D.

Paralegal Studies Certificate Program
Susan M. Sullivan, M.A., Director

The School of Business Administration

SCHOOL OF BUSINESS ADMINISTRATION MISSION STATEMENT

The School of Business Administration is committed to developing socially responsible leaders and improving global business practice through innovative personalized education and applied research.

The major goal of professional undergraduate business education in the School of Business Administration is to prepare students with an educational foundation for effective and responsible administrative and managerial leadership in both private and public organizations or related professional activities. This goal implies educating persons to be responsible adults in all aspects of their lives in an era of dynamic change. It implies that we aim to educate persons as highly competent professionals who strive for the achievement of the highest values and goals.

The basic orientation of the School is professional, and this dictates a three-part curriculum. The first and most important part is the Foundations Curriculum, USD's General Education Program. An effective leader and professional in this era of change and challenge must be a liberally educated person. It is necessary that our students learn the indispensable competencies of written literacy, mathematical competency, and critical reasoning. Furthermore, it is our objective to help students develop their own internalized value systems and appreciate the diversity of human experience. We believe that a liberal education is a necessary part of a professional education, and we have structured a curriculum that recognizes this as preparation for life.

The second part of the curriculum is the common-body-of-knowledge, those business courses required of all School of Business Administration graduates. This core provides the foundation for a career as a manager or as a business-related professional. It provides the student with an understanding of the interaction between the firm and its environment, and an overall view of policy making in an organization. This core, combined with the quantitative and philosophy courses, is designed to help our students become professionals with highly analytical minds.

The third section of the curriculum provides the student an opportunity to specialize and prepare for an entry-level position in the first years of a career. These areas include majors in Accounting, Business Administration, Business Economics, and Economics. The goal of this portion of the curriculum is to provide the student with the understanding necessary for the development of personal potential early in one's career.

Our goal is to graduate self-motivated persons who will be able to absorb and use an ever growing body of knowledge and changing technology and to serve humankind in an ethical manner. The School, therefore, stresses values and the process of learning.

ADVISORY BOARDS AND COMMITTEES

A number of advisory boards and committees have been established to assist various programs within the School of Business Administration in the following areas:

1. Developing and promoting relations between the USD School of Business Administration and the business, not-for-profit, and government communities.
2. Providing counsel and advice on existing and contemplated programs of the School of Business Administration.
3. Serving as liaisons between the USD School of Business Administration and the San Diego community, the state, and national sectors.
4. Advising the dean and the faculty on matters dealing with business programs, curricula, and activities.
5. Assisting in seeking sources of support for School of Business Administration programs and facilities.
6. Improving and facilitating recruiting and placement of graduates and alumni.
7. Advising the USD School of Business Administration on ways and means of effective utilization of human and physical resources in business research projects and programs.

Accountancy Programs Executive Board

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Mr. Horace Hogan II, The Brehm Companies
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Mr. Rick Snyder, R. A. Snyder Properties, Inc.
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Mr. Brad Wiblin, Bridge Housing Corporation

Supply Chain Management Institute Advisors
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Mr. John Cotter, Aetna
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Mr. Angel Mendez, Palm, Inc.
Mr. Robert Mionis, Honeywell International
Ms. Patricia E. Moody, Author and Consultant
Mr. R. David Nelson, Delphi Automotive Systems
Mr. Stephen J. Ogg, Raytheon
Ms. Susanne Wagner, Southern California Edison

CENTERS AND INSTITUTES

John Ahlers Center for International Business

The John M. Ahlers Center for International Business was founded in 1994 with a generous endowment from the estate of John and Carolyn Ahlers to enhance international business education at the University of San Diego. Given a lifetime of international business and service, the Ahlers believed that globalization had increased the need for managers to be developed with special skills and knowledge to handle the challenges and opportunities of an international marketplace. The Ahlers Center provides a number of programs to strengthen and acquire this needed expertise among the faculty, students, and the business community. This has resulted in faculty with international expertise offering a variety of international courses and perspectives, students interested and experienced in international business, and a strong network with international business leaders. These activities link faculty, students, and international business leaders to share ideas and develop knowledge to operate more effectively in a global business environment.

One activity of the Ahlers Center is the sponsorship and coordination of Study Abroad programs during Intersession and Summer Sessions. These programs allow graduate business students the opportunity, over a relatively short time period, to have a study abroad business-oriented experience. In addition to study abroad opportunities, the Ahlers Center annually sponsors International Executives-

in-Residence bringing business leaders to campus and the classroom. The Ahlers Center also invites distinguished international business faculty for special guest lectures or to offer courses as visiting faculty at USD.

All of these activities, and others, have created a Center of Excellence in International Business at the University of San Diego that permeates throughout the curriculum and into a variety of programs. For additional information about the Ahlers Center for International Business, visit the Web site: http://business.sandiego.edu/ib.

Real Estate Institute

The mission of the USD Real Estate Institute is to develop qualified and socially responsible leaders of the real estate industry. Our goals are a commitment to excellence and a dedication to developing a national reputation for high-quality real estate education, student career placement in a wide range of real estate related careers, pertinent applied research, and annual professional conferences that meet the needs of the commercial and residential industries. Our research, teaching, and career placement focuses on aspects of real estate, real estate finance, urban economics, and regional development.

The Real Estate Institute is comprised of seven administrative staff and ten affiliated faculty members. The Ernest W. Hahn Chair Policy Advisory Board, comprised of 25 senior business and real estate executives, provides overall policy guidance and financial support to USD's real estate program. A Commercial Real Estate Committee and a Residential Real Estate Committee consisting of industry professionals offer their advice on curriculum development and programming ideas to enhance the Real Estate Institute for students and industry professionals.

The Institute staff and affiliated faculty are actively expanding USD's academic curriculum at the undergraduate and graduate levels, while simultaneously creating a wide range of career-oriented opportunities for students outside of the classroom. All of the Institute's initiatives are practical in nature and attempt to maximize students' opportunities to get involved directly in the real estate industry, both in the classroom and in extracurricular programs. The Institute sponsors a cohort-based, full-time Master of Science degree in Real Estate.

Supply Chain Management Institute

The Supply Chain Management Institute (SCMI) is committed to the development of leading edge strategies and techniques in integrated supply, operations, and logistics management. SCMI focuses its efforts on three areas: Applied Research, Collaborative Relationships, and World-Class Education. The Institute disseminates its insight and practices through annual Forums. In striving to be the preferred source for individuals and companies seeking executive-level supply chain management education, SCMI provides an online Graduate Certificate in Supply Chain Management and an online Master of Science in Supply Chain Management. The Institute also supports the resident Master of Business Administration by providing an emphasis in Supply Chain Management.

SCMI also provides students with myriad opportunities to learn from leading lights in supply chain management through seminars on and off campus and access to forums of managers from across the world. The student division of the Institute, the Supply Chain Management Association (SCMA) also organizes tours to world-class facilities and opportunities for interacting with industry and professional organizations.

Supply chain management is a focal point for management investment and improvement. The faculty, staff, and students of SCMI are ready for the challenges that lie ahead. For additional information on SCMI, please visit the Web site at: http://scmi.sandiego.edu.

Information Technology Management Institute

Created in 2002, the University of San Diego Information Technology Management Institute (ITMI) is committed to improving the ability of Information Technology/Systems organizations to attain their goals through applied research and innovative, personalized education and training programs designed to develop socially responsible Information Technology leaders and advisors.

The ITMI was created to achieve a broad set of purposes, including undergraduate and graduate courses in existing degree programs; new undergraduate and graduate degree programs; extracurricular activities and organizations for undergraduate and graduate students; non-credit courses, seminars, and continuing education opportunities for members of the business community; and a research agenda consistent with its mission. As such, the Institute is a portfolio of related programs housed in an entity that allows interested faculty to band together to offer these programs in an effective and responsive manner.

Leadership Institute For Entrepreneurs

The focal point of the Leadership Institute for Entrepreneurs (LIFE) is values-based breakthrough leadership along the entrepreneurial journey of life, consistent with "learning the art of breakthrough leadership." By breakthrough leadership, we are clearly reaching out to leaders of profits and nonprofits alike who are engaged in entrepreneurial dynamism, elevating their life journey onto the higher road of success, while always maintaining traction with our fundamental underlying ethos of social responsibility. A main thrust and rationale for LIFE is to create a new portfolio of programs and experiences that will enrich our learning community and improve its moral leadership capacity, while sustaining free enterprise.

The program of LIFE will introduce a broad set of initiatives consistent with the School of Business Administration mission to promote socially responsible leadership. This program will center on four key pillars:

- Academic undergraduate and graduate courses in leadership;
- Research publications that enhance the art, wisdom, and practices of values-based breakthrough leadership;
- Customized and innovative Entrepreneurial Leadership courses in the executive education arena; and,
- Leadership conferences and forums.

An example of the critical role of leadership research and practice within USD is the introduction of Master of Science degree programs in Executive Leadership and in Global Leadership. Both the MSEL and MSGL have garnered widespread acclaim and strong student support since their inception. LIFE is a direct extension of this commitment by the School of Business Administration to the art and practice of socially responsible leadership.

Bachelor of Arts in Economics

The School of Business Administration offers a program leading to the degree of Bachelor of Arts in Economics. The program prepares students for careers in most areas of business, including finance, marketing, real estate, supply management, and others. Other career opportunities exist in government and non-profit organizations. The program also prepares students for graduate work, either in economics or in professional studies in areas such as business administration, public administration, or law. Students majoring in Economics should consult with a faculty advisor to determine an academic program that best suits their interests.

LOWER-DIVISION PREPARATION FOR THE MAJOR (19-20 units)

Lower-division requirements for the major are:

1. Third semester competency in a second language;
2. Completion of the following courses with a grade point average of 2.0 or better with no grade below C- (Transfer courses must be C or better.):
   ACCT 201 – Principles of Financial Accounting
   ECON 101 – Principles of Microeconomics
   ECON 102 – Principles of Macroeconomics
   ECON 216 – Quantitative Business Analysis
   ITMG 100 – Information Systems
   MATH 130 or 150 – Survey of Calculus or Calculus I

Students considering graduate studies in economics are advised to take MATH 150; MATH 151 and 250 are recommended as well.

THE MAJOR (30 units)

Upon completion of 60 units and with the approval of the School of Business Administration Undergraduate Programs Center, the student becomes eligible for upper-division School of Business Administration courses. Each student majoring in Economics must complete the following:

ECON 201 – Intermediate Microeconomics
ECON 202 – Intermediate Macroeconomics
ECON 370 – Applied Econometrics
ECON 490 – Senior Seminar
ECON upper-division electives (18 units)

RECOMMENDED PROGRAM OF STUDY BACHELOR OF ARTS IN ECONOMICS

FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
SEMESTER I ECON 101 (3) MATH 115 (3) Preceptorial (3) GE or Electives (6-7)	SEMESTER I ECON 202 (3) ECON 216 (4) GE or Electives (9)	SEMESTER I ECON Electives (6) GE or Electives (9-10)	SEMESTER I ECON 370 (3) ECON Elective (3) GE or Electives (9-10)
SEMESTER II ECON 102 (3) MATH 130 (3) or MATH 150 (4) ITMG 100 (3) GE or Electives (6-7)	SEMESTER II ECON 201 (3) ACCT 201 (3) GE or Electives (9)	SEMESTER II ECON Electives (6) GE or Electives (9-10)	SEMESTER II ECON 490 (3) ECON Elective (3) GE or Electives (9-10)

The School of Business Administration has a residency requirement for its majors; i.e., a certain number of upper-division units in the Economics major must be at USD: Economics – 18 upper-division units.

MINOR IN ECONOMICS

A minor in Economics requires the completion of the following courses for a total of 18 units:
ECON 101 – Principles of Microeconomics
ECON 102 – Principles of Macroeconomics
ECON 201 – Intermediate Microeconomics or Economics Elective
ECON 202 – Intermediate Macroeconomics or Economics Elective
ECON upper-division electives (6 units)

Courses taken in the minor may not be counted toward the major but may be used to satisfy preparation for the major and general education requirements.

Bachelor of Accountancy

The School of Business Administration offers a program leading to the degree of Bachelor of Accountancy. The program prepares students for careers in public accounting, accounting within industry, and governmental accounting as outlined in the Accountancy Program Mission Statement shown below:

The mission of the USD accountancy program is to develop accountants – through the use of personalized, innovative teaching methods developed by faculty who are active in the production and dissemination of knowledge – who have the skills to compete in a diverse and fast-changing global professional environment.

Students interested in a combined Bachelor of Accountancy/Master of Science in Accountancy and Financial Management program should consult the *Graduate Bulletin* for program details.

Students in the Bachelor of Accountancy program should consult with an accounting faculty advisor about the courses to elect in order to prepare for the Certified Public Accountant (CPA) Examination, the Certification in Management Accounting (CMA) Examination, graduate work in fields of study related to accountancy, or specific fields of government employment.

As discussed below, the degree program allows students to select an option within the accountancy concentration that fits their career goals. These options allow students to acquire both accountancy skills and skills from specified business fields that are highly related to accountancy. Students should consult with an accounting faculty advisor about their career goals before selecting a concentration option.

The School of Business Administration is accredited by the AACSB International – The Association to Advance Collegiate Schools of Business. The Bachelor of Accountancy program also holds AACSB accounting program accreditation.

RECOMMENDED PROGRAM OF STUDY
BACHELOR OF ACCOUNTANCY
OPTION 1: ACCOUNTANCY

FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
SEMESTER I	**SEMESTER I**	**SEMESTER I**	**SEMESTER I**
ECON 101 (3)	ACCT 201 (3)	ACCT 300 (3)	ACCT 401 (3)
MATH 115 (3)	ECON 216 (4)	ACCT 302 (3)	ACCT 306 (3)
Preceptorial (3)	GE or Electives (9)	MGMT 300 (3)	ETLW 311 (3)
GE or Electives (6-7)		FINA 300 (3)	DSCI 300 (3)
		GE or Elective (3-4)	GE or Elective (3-4)
SEMESTER II	**SEMESTER II**	**SEMESTER II**	**SEMESTER II**
ECON 102 (3)	ACCT 202 (3)	ACCT 301 (3)	ACCT 408 (3)
MATH 130 (3) or	ITMG 100 (3)	ACCT 303 (3)	DSCI 303 (3)
MATH 150 (4)	GE or Electives (9-10)	MKTG 300 (3)	MGMT 490 (3)
GE or Electives (9-10)		ETLW 302 (3)	ETLW 312 (3) or
		GE or Elective (3-4)	ACCT 407 (3)
			GE or Elective (3-4)

LOWER-DIVISION PREPARATION FOR THE MAJOR (22-23 units)

Lower-division requirements for the major are:

1. Third semester competency in a second language;
2. Completion of the following courses with a grade point average of 2.0 or better with no grade below C- (Transfer courses must be C or better.):
   ACCT 201 – Principles of Financial Accounting
   ACCT 202 – Principles of Managerial Accounting
   ECON 101 – Principles of Microeconomics
   ECON 102 – Principles of Macroeconomics
   ECON 216 – Quantitative Business Analysis
   ITMG 100 – Information Systems
   MATH 130 or 150 – Survey of Calculus or Calculus I

THE MAJOR (48-51 units)

Upon completion of 60 units and with the approval of the Business School Office of Undergraduate Programs, the student becomes eligible for upper-division Business School courses. The courses in the major serve two purposes: 1) they give students a broad background in the major functional areas of business administration (i.e., a business component); and 2) they allow students to focus on the field of accountancy (i.e., an accountancy component). Each student in the Bachelor of Accountancy program must complete the following:

1. Business Component (24 units)

DSCI 300 – Management Science
DSCI 303 – Operations Management
ETLW 302 – Business and Society
ETLW 311 – Business Law I
FINA 300 – Financial Management
MGMT 300 – Organizational Behavior
MKTG 300 – Fundamentals of Marketing
MGMT 490 – Strategic Management

2. Accountancy Component (24 or 27 units)

Students must complete the requirements of one of the following Accountancy Component options:

Option 1: Accountancy Option (24 units)

This option provides a primary emphasis in accountancy that is recommended for students who desire careers in public accounting and who plan on taking the Certified Public Accountant (CPA) Examination. This option is also recommended for students interested in industry related accounting careers where the Certificate in Management Accounting (CMA) is desirable.

ACCT 300 – Intermediate Accounting I
ACCT 301 – Intermediate Accounting II
ACCT 302 – Cost Accounting
ACCT 303 – Accounting Information Systems
ACCT 306 – Federal Tax Accounting I
ACCT 401 – Advanced Accounting
ACCT 408 – Auditing
One of the following electives:
ACCT 407 – Federal Tax Accounting II or
ETLW 312 – Business Law II

Option 2: Accountancy and Supply Chain Management Combination (27 units)

This option provides a primary emphasis in accountancy and a secondary emphasis in Supply Chain Management. This combination is developed for accountancy students who are geared toward careers in industry. In particular, students interested in careers requiring both accountancy skills and supply chain management skills should consider this Bachelor of Accountancy degree program option. This option requires the following:

RECOMMENDED PROGRAM OF STUDY
BACHELOR OF ACCOUNTANCY
OPTION 2: ACCOUNTANCY AND SUPPLY CHAIN MANAGEMENT

FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
SEMESTER I	**SEMESTER I**	**SEMESTER I**	**SEMESTER I**
ECON 101 (3)	ACCT 201 (3)	ACCT 300 (3)	ACCT 306 (3)
MATH 115 (3)	ECON 216 (4)	ACCT 302 (3)	ETLW 311 (3)
Preceptorial (3)	GE or Electives (9)	MGMT 300 (3)	DSCI 300 (3)
GE or Electives (6-7)		FINA 300 (3)	BSCM 303 (3)
		GE or Elective (3-4)	GE or Elective (3-4)
SEMESTER II	**SEMESTER II**	**SEMESTER II**	**SEMESTER II**
ECON 102 (3)	ACCT 202 (3)	ACCT 301 (3)	DSCI 303 (3)
MATH 130 (3) or	ITMG 100 (3)	ACCT 303 (3)	BUSN 377 (3)
MATH 150 (4)	GE or Electives (9-10)	MKTG 300 (3)	MGMT 490 (3)
GE or Electives (9-10)		ETLW 302 (3)	Accounting Elective (3)
		BSCM 300 (3)	GE or Elective (3-4)

ACCT 300 – Intermediate Accounting I
ACCT 301 – Intermediate Accounting II
ACCT 302 – Cost Accounting
ACCT 303 – Accounting Information Systems
ACCT 306 – Federal Tax Accounting I
BSCM 300 – Supply Management
BSCM 303 – Contract Pricing
BUSN 377 – Negotiation
One of the following ACCT elective courses:
ACCT 401 – Advanced Accounting
ACCT 407 – Federal Tax Accounting II
ACCT 408 – Auditing

Option 3: Accountancy and Finance/Real Estate Combination (27 units)

This option provides a primary emphasis in accountancy and a secondary emphasis in finance or real estate. This combination is developed for accountancy students who are geared toward careers in industry. In particular, students interested in careers requiring both accountancy skills and finance or real estate skills should consider this Bachelor of Accountancy degree program option. This option requires the following:
ACCT 300 – Intermediate Accounting I
ACCT 301 – Intermediate Accounting II
ACCT 302 – Cost Accounting
ACCT 303 – Accounting Information Systems
ACCT 306 – Federal Tax Accounting I
FINA 402 – Investments
One of the following ACCT elective courses:
ACCT 401 – Advanced Accounting
ACCT 407 – Federal Tax Accounting II
ACCT 408 – Auditing
Two of the following FINA/REAL elective courses*:
FINA 300 – Financial Institutions
FINA 405 – International Finance
REAL 320 – Principles of Real Estate
REAL 325 – Financing Real Estate
REAL 327 – Legal Aspects of Real Estate

*Students interested in finance should select Financial Institutions and International Finance as their two finance/real estate electives. Students interested in real estate should select two of the indicated real estate courses as their finance/real estate electives.

Option 4: Accountancy and Information Systems/Technology Combination (27 units)

This option provides a primary emphasis in accountancy and a secondary emphasis in information systems and technology. This combination is developed for accountancy students who are geared toward careers in public accounting, industry, or government where both accounting- and technology-based information systems skills and knowledge are required. In particular, students interested in careers requiring accountancy skills, information systems skills, and related information technology based skills should consider this Bachelor of Accountancy degree program option. This option requires the following:
ACCT 300 – Intermediate Accounting I
ACCT 301 – Intermediate Accounting II
ACCT 302 – Cost Accounting
ACCT 303 – Accounting Information Systems
ACCT 306 – Federal Tax Accounting I
One of the following ACCT elective courses:
ACCT 401 – Advanced Accounting

RECOMMENDED PROGRAM OF STUDY
BACHELOR OF ACCOUNTANCY
OPTION 3: ACCOUNTANCY AND FINANCE/REAL ESTATE

FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
SEMESTER I	**SEMESTER I**	**SEMESTER I**	**SEMESTER I**
ECON 101 (3)	ACCT 201 (3)	ACCT 300 (3)	ACCT 306 (3)
MATH 115 (3)	ECON 216 (4)	ACCT 302 (3)	ETLW 311 (3)
Preceptorial (3)	GE or Electives (9)	MGMT 300 (3)	DSCI 300 (3)
GE or Electives (6-7)		FINA 300 (3)	FINA Elective (3)
		GE or Elective (3-4)	GE or Elective (3-4)
SEMESTER II	**SEMESTER II**	**SEMESTER II**	**SEMESTER II**
ECON 102 (3)	ACCT 202 (3)	ACCT 301 (3)	DSCI 303 (3)
MATH 130 (3) or	ITMG 100 (3)	ACCT 303 (3)	MGMT 490 (3)
MATH 150 (4)	GE or Electives (9-10)	MKTG 300 (3)	FINA Elective (3)
GE or Electives (9-10)		ETLW 302 (3)	ACCT Elective (3)
		FINA 402 (3)	GE or Elective (3-4)

ACCT 407 – Federal Tax Accounting II
ACCT 408 – Auditing
Three of the following ITMG elective courses:
ITMG 300 – Structured Programming for Business Applications
ITMG 301 – Database Design and Implementation
ITMG 380 – Electronic Commerce
ITMG 381 – Web Site Design
ITMG 385 – Management Information Systems
ITMG 388 – Data Communications and Networking
ITMG 489 – Information Systems Design and Implementation

GRADE POINT AVERAGE REQUIREMENTS AND TRANSFER RESTRICTIONS

The 48 or 51 semester-hours taken within the business component courses and the selected accounting component option courses will be considered the major courses for the Bachelor of Accountancy program. Students must have a grade point average of 2.0 or better in these major courses with a minimum grade of C- in at least 24 of the upper-division major hours contained within the major courses.

Additionally, all classes taken within the selected accounting component option must be completed with a grade point average of 2.0 or better, with no individual course grade below C-.

The School of Business Administration has a residency requirement for its majors; i.e., a certain number of upper-division units in the Accounting major must be at USD. The Accounting major requires 18 upper-division at USD. Students in the Bachelor of Accountancy program may transfer no more than two courses in upper-division accounting to USD.

MINOR IN ACCOUNTING

A minor in Accountancy requires the completion of the following courses for a total of 18 units:
ACCT 201 – Principles of Financial Accounting
ACCT 202 – Principles of Managerial Accounting
ACCT 300 – Intermediate Accounting I
ACCT 302 – Cost Accounting
ITMG 100 – Information Systems
ACCT upper-division elective (3 units)

The minor in Accountancy is open to undergraduate students outside the Bachelor of Accountancy degree program.

Students in the Bachelor of Business Administration degree program will likely have already completed ACCT 201, ACCT 202, and ITMG 100 as requirements of their degree. Therefore, those students will only need to complete ACCT 300, ACCT 302, and one additional upper-division accounting elective to complete the requirements noted above and receive the minor. However, upper-division accounting courses taken for the Accountancy minor cannot be counted as part of the upper-division elective units in the Business Administration major.

Courses taken in the minor may not be counted toward the major but may be used to satisfy preparation for the major and general education requirements.

RECOMMENDED PROGRAM OF STUDY BACHELOR OF ACCOUNTANCY OPTION 4: ACCOUNTANCY AND INFORMATION SYSTEMS/TECHNOLOGY COMBINATION

FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
SEMESTER I	**SEMESTER I**	**SEMESTER I**	**SEMESTER I**
ECON 101 (3)	ACCT 201 (3)	ACCT 300 (3)	ACCT 306 (3)
MATH 115 (3)	ECON 216 (4)	ACCT 302 (3)	DSCI 300 (3)
Preceptorial (3)	GE or Electives (9)	FINA 300 (3)	ETLW 311 (3)
GE or Electives (6-7)		MGMT 300 (3)	ITMG Elective (3)
		GE or Elective (3-4)	GE or Elective (3-4)
SEMESTER II	**SEMESTER II**	**SEMESTER II**	**SEMESTER II**
ECON 102 (3)	ACCT 202 (3)	ACCT 301 (3)	DSCI 303 (3)
MATH 130 (3) or	ITMG 100 (3)	ACCT 303 (3)	MGMT 490 (3)
MATH 150 (4)	GE or Electives (9-10)	ETLW 302 (3)	ACCT Elective (3)
GE or Electives (9-10)		MKTG 300 (3)	ITMG Elective (3)
		ITMG Elective (3)	GE or Elective (3-4)

Bachelor of Business Administration

The School of Business Administration offers a program leading to the degree of Bachelor of Business Administration, with majors in Business Administration and Business Economics.

LOWER-DIVISION PREPARATION FOR THE MAJOR (22-23 units)

Lower-division requirements for the major are:

1. Third semester competency in a second language;
2. Completion of the following courses with a grade point average of 2.0 or better with no grade below C- (Transfer courses must be C or better.):
   ACCT 201 – Principles of Financial Accounting
   ACCT 202 – Principles of Managerial Accounting
   ECON 101 – Principles of Microeconomics
   ECON 102 – Principles of Macroeconomics
   ECON 216 – Quantitative Business Analysis
   ITMG 100 – Information Systems
   MATH 130 or 150 – Survey of Calculus or Calculus I

THE MAJOR (39 units)

Upon completion of 60 units and with the approval of the School of Business Administration Advising Office, the student becomes eligible for upper-division School of Business Administration courses. Students can major in either Business Administration or Business Economics.

Major in Business Administration

The Business Administration major prepares students for careers in business management or public administration and for post-baccalaureate studies in business. The courses in the Business Administration major serve two purposes: 1) they give students a broad background in the major functional areas of business administration; and, 2) they give students electives in order to explore their interests in the field of business administration. Each student majoring in Business Administration must complete the following:

1. Business Component (24 units)
   DSCI 300 – Management Science
   DSCI 303 – Operations Management
   ETLW 302 – Business and Society
   ETLW 311 – Business Law I
   FINA 300 – Financial Management
   MGMT 300 – Managing People in Organizations
   MGMT 490 – Strategic Management
   MKTG 300 – Fundamentals of Marketing
2. Elective Component (15 units)
   FINA 401-405 – Finance Elective (3 units)
   MGMT 301-309 – Management Elective (3 units)
   MKTG 301-490 – Marketing Elective (3 units)
   Accounting, business, or economics upper-division electives (6 units)

Students majoring in Business Administration should consult with the School of Business Administration Advising Office in selecting electives that best suit their interests. A student may select a concentration by completing 12 units in one of the following areas:

Management

MGMT 300 – Organizational Behavior
MGMT 301 – Organizational Theory
MGMT 302 – Family Business
MGMT 303 – Interpersonal Relations
MGMT 304 – Entrepreneurship and New Ventures
MGMT 305 – Career Development
MGMT 306 – Women in Management

RECOMMENDED PROGRAM OF STUDY
BACHELOR OF BUSINESS ADMINISTRATION
MAJOR: BUSINESS ADMINISTRATION

FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
SEMESTER I	**SEMESTER I**	**SEMESTER I**	**SEMESTER I**
ECON 101 (3)	ACCT 201 (3)	FINA 300 (3)	DSCI 303 (3)
MATH 115 (3)	ECON 216 (4)	MGMT 300 (3)	ETLW 311 (3)
Preceptorial (3)	GE or Electives (9)	MKTG 300 (3)	Business Elective (6)
GE or Electives (6-7)		GE or Electives (6-7)	GE or Elective (3-4)
SEMESTER II	**SEMESTER II**	**SEMESTER II**	**SEMESTER II**
ECON 102 (3)	ACCT 202 (3)	DSCI 300 (3)	MGMT 490 (3)
ITMG 100 (3)	GE or Electives (12-13)	ETLW 302 (3)	Business Elective (6)
MATH 130 (3) or		Business Elective (3)	GE or Electives (6-7)
MATH 150 (4)		GE or Electives (6-7)	
GE or Electives (6-7)			

MGMT 307 – Human Resource Management
MGMT 308 – Small Business Management
MGMT 309 – International Comparative Management
MGMT 494 – Special Topics*

Finance
FINA 300 – Financial Management
FINA 401 – Financial Institutions
FINA 402 – Investments
FINA 405 – International Finance
FINA 494 – Special Topics*
REAL 320 – Principles of Real Estate
REAL 325 – Financing Real Estate

Marketing
MKTG 300 – Fundamentals of Marketing
MKTG 301 – Services Marketing
MKTG 302 – Sports Marketing
MKTG 305 – International Marketing
MKTG 330 – Personal Selling
MKTG 350 – Advertising
MKTG 355 – Public Relations
MKTG 410 – Marketing Research
MKTG 420 – Consumer Behavior
MKTG 465 – Retailing
MKTG 480 – Advanced Marketing Project
MKTG 490 – Marketing Strategy
MKTG 494 – Special Topics*

Electronic Commerce
ITMG 300 – Structured Programming for Business Applications
ITMG 301 – Database Design and Applications
ITMG 380 – Electronic Commerce
ITMG 381 – Web Site Design
ITMG 388 – Data Communications and Networks
ITMG 489 – Information Systems Design and Implementation
ITMG 494 – Special Topics in Electronic Commerce
OR ITMG 498 – Internship in Electronic Commerce

Information Systems
ACCT 303 – Accounting Information Systems
ITMG 300 – Structured Programming for Business Applications
ITMG 301 – Database Design and Implementation
ITMG 380 – Electronic Commerce
ITMG 385 – Management Information Systems
ITMG 388 – Data Communications and Networks
ITMG 489 – Information Systems Design and Implementation
ITMG 494 – Special Topics*

International Business
ECON 333 – International Economics
ECON 335 – Economic Development of Latin America
ECON 337 – Economic Development of Asia
ECON 494 – Special Topics*
FINA 405 – International Financial Management
MGMT 309 – International Comparative Management
MKTG 305 – International Marketing

Real Estate
ECON 304 – Urban Economics
ECON 329 – Real Estate Economics
FINA 300 – Financial Management
REAL 320 – Principles of Real Estate
REAL 325 – Financing Real Estate
REAL 327 – Legal Aspects of Real Estate
REAL 428 – Commercial Real Estate Valuation
REAL 494 – Special Topics*

RECOMMENDED PROGRAM OF STUDY
BACHELOR OF BUSINESS ADMINISTRATION
MAJOR: BUSINESS ECONOMICS

FRESHMAN YEAR	SOPHOMORE YEAR	JUNIOR YEAR	SENIOR YEAR
SEMESTER I	SEMESTER I	SEMESTER I	SEMESTER I
ECON 101 (3)	ACCT 201 (3)	FINA 300 (3)	ECON 370 (3)
MATH 115 (3)	ECON 202 (3)	MGMT 300 (3)	ETLW 302 (3)
Preceptorial (3)	ECON 216 (4)	ECON Elective (3)	ETLW 311 (3)
GE or Electives (6-7)	GE or Electives (6)	GE or Electives (6-7)	GE or Electives (6-7)
SEMESTER II	SEMESTER II	SEMESTER II	SEMESTER II
ECON 102 (3)	ACCT 202 (3)	DSCI 303 (3)	ECON 373 (3)
ITMG 100 (3)	ECON 201 (3)	MKTG 300 (3)	ECON 490 (3)
MATH 130 (3) or MATH 150 (4)	GE or Electives (9-10)	ECON Elective (3)	GE or Electives (9-10)
GE or Electives (6-7)		GE or Electives (6-7)	

Supply Chain Management
BSCM 300 – Supply Management
BSCM 303 – Contract Pricing
BSCM 494 – Special Topics*
BUSN 377 – Negotiation
MKTG 300 – Fundamentals of Marketing

*No more than three units of Special Topics may be used as part of the concentration requirements. Use of Special Topics courses in the concentration is subject to approval of the School of Business Administration Advising Office.

The School of Business Administration has a residency requirement for its majors; i.e., a certain number of upper-division units in the Business Administration major must be at USD. The Business Administration major requires 24 upper-division units at USD.

Minor in Business Administration

A minor in Business Administration requires the completion of the following courses for a total of 18 units:
ACCT 201 – Principles of Financial Accounting
ECON 101 – Principles of Microeconomics
ECON 102 – Principles of Macroeconomics
MGMT 300 – Managing People in Organizations
Business upper-division electives (6 units)

Courses taken in the minor may not be counted toward the major but may be used to satisfy preparation for the major and general education requirements.

Major in Business Economics

The Business Economics major prepares students for careers in business management or public administration and for post-baccalaureate studies in business, economics, or law. The courses in the Business Economics major serve two purposes: 1) they give students a broad background in the major functional areas of business administration; and, 2) they allow students to focus on the field of economics. Each student majoring in Business Economics must complete the following:

1. Business Component (18 units)
   DSCI 303 – Operations Management
   ETLW 302 – Business and Society
   ETLW 311 – Business Law I
   FINA 300 – Financial Management
   MGMT 300 – Organizational Behavior
   MKTG 300 – Fundamentals of Marketing
2. Economics Component (21 units)
   ECON 201 – Intermediate Microeconomics
   ECON 202 – Intermediate Macroeconomics
   ECON 370 – Applied Econometrics
   ECON 373 – Managerial Economics
   ECON 490 – Senior Seminar
   Economics Upper-Division Electives (6 units)

Description of courses for the major in Business Economics can be found under Economics Course Descriptions.

The School of Business Administration has a residency requirement for its majors, i.e., a certain number of upper-division units in the Business Economics major must be at USD as follows: Business Economics – 12 upper-division economics units, total 24 upper-division business and economics units.

Minor in Information Systems

The minor in Information Systems is designed for students majoring in a field in which the intelligent and humane use of information technologies is an important supporting body of knowledge. The minor is highly relevant for students majoring in Business, Communication Studies, Computer Science, or other majors in the College of Arts and Sciences.

The minor in Information Systems requires a minimum of 18 units:

Courses required for the minor:
ITMG 100 – Information Systems
ITMG 300 – Structured Programming for Business Applications
ITMG 301 – Database Design and Applications
ITMG 385 – Management Information Systems

Upper-division courses: at least six units chosen from this list with approval of a faculty advisor:
ACCT 303 – Accounting Information Systems
ITMG 380 – Electronic Commerce
ITMG 381 – Web Site Design
ITMG 388 – Data Communications and Networks
ITMG 489 – Information Systems Design and Implementation
ITMG 494 – Special Topics in Information Systems
OR ITMG 498 Internship in Information Systems

Minor in Electronic Commerce

The minor in Electronic Commerce is designed for students majoring in a field in which the intelligent and humane use of the Internet is an important supporting body of knowledge. The minor in Electronic Commerce is highly relevant for students majoring in Business, Communication Studies, Computer Science, or other majors in the College of Arts and Science.

The minor in Electronic Commerce requires a minimum of 18 units:

Courses required for the minor:
ITMG 100 – Information Systems
ITMG 300 – Structured Programming for Business Applications

ITMG 301 – Database Design and Applications
ITMG 380 – Electronic Commerce

Upper-division courses: at least 6 units chosen from this list with approval of a faculty advisor:
ITMG 381 – Web Site Design
ITMG 385 – Management Information Systems
ITMG 388 – Data Communications and Networks
ITMG 489 – Information Systems Design and Implementation
ITMG 494 – Special Topics in Electronic Commerce
OR ITMG 498 – Internship in Electronic Commerce

Course Descriptions

ACCOUNTANCY (ACCT)

201 [001] Principles of Financial Accounting (3)
Introduction to accounting records, their purpose and use, emphasizing the establishment of a solid conceptual background. Accounting procedures for specific asset, liability, and owner's equity accounts are also examined from the point of view of users of financial statements. Prerequisite: Sophomore standing.

202 [002] Principles of Managerial Accounting (3)
Introduction of managerial accounting information for planning, controlling, and making decisions within a firm. Current changes to the business environment and their impact on accounting is also presented. Prerequisites: ACCT 201 and ITMG 100 (or concurrent enrollment).

300 [100A] Intermediate Accounting I (3)
Emphasis is placed upon corporate organization with a comprehensive study of current assets; property, plant, and equipment; intangible assets; and current liabilities. Recent developments in accounting theory and their impact on financial reporting are illustrated. Prerequisite: ACCT 202.

301 [100B] Intermediate Accounting II (3)
Extension of Intermediate Accounting I. Topics covered include long-term liabilities, pensions, leases, deferred taxes, and owners' equity issues. Prerequisite: ACCT 300.

302 [102] Cost Accounting (3)
Sources of data and preparation of financial statements in manufacturing organizations are studied. Primary emphasis is on costs for control, decision processes internal to the firm (including standards of performance), relevant costs for decisions, budgets, and capital investment considerations. Prerequisite: ACCT 202.

303 [103] Accounting Information Systems (3)
Information requirements and transaction processing procedures relevant to integrated accounting systems. The course emphasizes accounting system design, analysis, and related internal controls. Prerequisites: ACCT 300 and 302.

306 [106] Federal Tax Accounting I (3)
Students will learn the fundamentals of federal income tax law from both a theory and practice perspective. Research projects and sample tax returns are used to illustrate course material. This course is designed for anyone needing a background in tax practice, or who would like to take a more active role in their own individual tax planning. Although the course is designed for Business and Accounting majors, upper-division students from outside the School of Business Administration are welcome and are encouraged to consult with the instructor for permission to take the course. Prerequisites: Upper-division standing and ACCT 201 (or permission of instructor).

401 [101] Advanced Accounting (3)
Accounting and reporting for business combinations, foreign currency transactions, partnerships, and not-for-profit organizations such as governments, charities, universities, and hospitals. Prerequisite: ACCT 301 (or concurrent enrollment).

407 [107] Federal Tax Accounting II (3)
Study of special tax considerations pertaining to corporations and partnerships. Practice tax returns are used to illustrate the course material. Prerequisites: ACCT 300 and 306.

408 [108] Auditing (3)
Intensive introduction to the attest function in society today. The environment, the process, and the report of the public auditor are analyzed. Potential extensions of the attest function are examined. Prerequisites: ACCT 301 and 303.

494 [194] Special Topics (3)
Topics of current interest in accounting. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [198] Internship (3)
Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of accounting, business, and economics principles. Placement must emphasize accounting field. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Accounting majors only; junior Accounting majors with 75 units and senior Accounting minors with consent of the instructor.

499 [199] Independent Study (1-3)
Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

BUSINESS (BUSN)

361 [BUS 161] Introduction to International Business (3)
An introduction to the international dimension of doing business. The purpose of this course is to make the student aware of the role played by culture, geography, government, and economics in shaping the environment in which businesses operate internationally. Topics include: forward currency markets, foreign direct investment, negotiation, international distribution, etc.

377 [BUS 177] Negotiation (3)
An introduction to the process of fair and business-like bargaining between parties with interdependent needs. Experience is gained in the use of both adversarial and integrative negotiating principles and techniques. The role of mediators is explored, and some of the issues involved in cross-cultural negotiations are examined.

401 [BUS 141W] Business Communication (3)
Analysis of the factors involved in planning, organizing, and writing in the business environment. Extensive practice in presenting effective letters, memoranda, and business reports using primary and secondary sources. This course satisfies the University requirement of an upper-division writing course.

DECISION SCIENCE (DSCI)

300 [BUS 150] Management Science (3)
An introduction to model formulation and solution techniques emphasizing their applications in decision making. Topics may include linear programming, transportation and assignment models, Markov analysis, network analysis, queuing models, and decision analysis. Prerequisite: ECON 216.

303 [BUS 153] Operations Management (3)
An introductory analysis of operations, planning, control, and improvement in services and manufacturing industries. Topics may include forecasting, process design, scheduling, inventories, JIT, productivity, and quality management. Prerequisite: ECON 216.

494 [194] Special Topics (3)
Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [198] Internship (3)
Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [199] Independent Study (1-3)
Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

ECONOMICS (ECON)

101 [011] Principles of Microeconomics (3)
An introduction to consumer behavior and the theory of the firm. Topics include the demand behavior of households, the supply behavior of business firms, and an introduction to market structure.

102 [012] Principles of Macroeconomics (3)
The study of the operation of the American economy in an international setting, examining the interaction of households, business firms, government, and the rest of the world in resource, product, and financial markets. Topics include national income accounting and analysis, business fluctuations, inflation, unemployment, and monetary and fiscal policy. Prerequisite: ECON 101.

201 [052] Intermediate Microeconomics (3)
The economic theory of demand, production, product and input markets, welfare, and general equilibrium. Applications of price theory, including its use in evaluating and forming public policy. Prerequisite: ECON 101.

202 [051] Intermediate Macroeconomics (3)
Examines the causes of fluctuations in important national economic variables, such as aggregate output, interest rates, the rate of inflation, the rate of unemployment, and exchange rates. Investigates the feasibility of stabilizing the economy through the use of fiscal and monetary policy. Prerequisite: ECON 102.

216 [BUS 016] Quantitative Business Analysis (4)
A systematic exposure to the issues and problems of applying and interpreting statistical analyses of business situations. Topics include: descriptive statistics, probability, random variables and their distributions, statistical inference, multiple regression and residual analysis, correlation, classical time-series models, and forecasting. Extensive computer analysis of data. Prerequisite: MATH 130 or 150.

302 [102] Public Finance (3)
An introduction to public sector economics, concentrating on the revenues and expenditures of federal, state, and local governments. Topics include public goods, externalities, voting theory, cost benefit analysis, and the study of taxation and government transfer programs. Prerequisite: ECON 102.

304 [104] Urban Economics (3)
The application of economic analysis to urban and regional areas. Topics include the theory underlying urbanization and the location of economic activity, the methodology utilized to analyze urban and regional economies, and problems and policies related to urban areas, such as housing, poverty, transportation, and local public finance. Special attention will be given to the San Diego metropolitan area. Prerequisite: ECON 101.

308 [108] Environmental and Natural Resource Economics (3)
An analysis of the economic principles that underlie the allocation, pricing, and use of natural resources. Topics include the intertemporal allocation of depletable resources, the economics of fisheries and forestry, issues in the distribution and use of water resources, the economics of recycling and waste disposal, and economic perspectives on global warming and ozone depletion. Prerequisite: ECON 101.

310 [110] Money and Banking (3)
A study of the structure, regulation, and performance of the banking industry in the United States, focusing on the strategy and procedures of the Federal Reserve System. Examines the problems encountered by the Federal Reserve System in trying to achieve its goals. Prerequisite: ECON 102.

321 [121] Women and Work (3)
Analysis of women's market and nonmarket work activities. Topics include gender roles, allocation of time, occupational distribution, earnings, government programs and their impact by gender, and the role of women and work in other countries. Prerequisite: ECON 101.

322 [122] Labor Economics (3)
An analysis of the operation of labor markets focusing on the market system for wage determination. Topics include the supply and demand for labor, wage determination under various market structures, human capital formation, discrimination in labor markets, collective bargaining and the structure of pay, unemployment, and wage inflation. Prerequisite: ECON 101.

324 [124] Industrial Organization (3)
Examines the role of different industrial structures in the performance of industrial markets, including the influence of different structures on major competitive forces in the market: entry, threat of substitution, bargaining power of buyers, bargaining power of suppliers, and rivalry among current competitors. Develops competitive strategies in various industrial environments. Prerequisite: ECON 101.

327 [127] Law and Economics (3)
The application of economic methodology to the principal areas of law: property, contracts, torts, and crime. The economic concepts of maximization, equilibrium, and efficiency are used to examine the consequences of existing and proposed laws and legal institutions. Prerequisite: ECON 101.

329 [129] Real Estate Economics (3)
An analysis of the economic principles that underlie the market for real estate. Topics include an evaluation of land resource requirements, input-output analysis in land use, economic foundations of valuation of land and improvements, taxation issues in real estate, and land use policy. Prerequisite: ECON 101.

333 [133] International Economics (3)
The theory, practice, and institutions of the international economy. Topics include international trade and investment, the European Economic Community, balance of payments, foreign exchange rate determination, multinational enterprises, trade with developing countries, and international economic policy. Prerequisite: ECON 102.

335 [135] Economic Development of Latin America (3)

An analysis of the determinants of economic development and growth in Third World countries in general and Latin America in particular, along with associated problems and policies. Topics include theories and policies concerning population, income distribution, education, capital formation, finance, agriculture, industry, trade, and economic planning. Prerequisite: ECON 102.

337 [137] Economic Development of Asia (3)

An analysis of the determinants of economic development and growth in Asia and the Pacific Rim, along with associated problems and policies. Topics include theories and policies concerning industry, agriculture, domestic savings and investment, human resources, international trade, foreign capital, and external debt. Prerequisite: ECON 102.

370 [170] Applied Econometrics (3)

The study of the construction and estimation of econometric models and econometric research. This is a project-oriented course designed to integrate economic theory with econometric analysis. Prerequisites: ECON 201, 202, and 216. Fall semester only.

371 [171] Business Cycles and Forecasting (3)

Examines the business cycle and techniques for forecasting fluctuations. The emphasis of the course is to gain hands-on exposure to specific business forecasting techniques and learn to apply them to limit the range of uncertainty in management decision-making. Specific techniques covered include lead-lag, exponential smoothing, econometric and arima (Box-Jenkins) time series analysis. Prerequisites: Economics 102 and 216.

373 [173] Managerial Economics (3)

The application of analytical techniques and economic principles to analyze typical problems encountered by managers. Topics include risk analysis, demand analysis, sales forecasting, production analysis, cost estimation, pricing decisions, and capital budgeting. Prerequisites: Economics 102 and 216. Spring semester only.

380 [180] Advanced Economic Theory (3)

An introduction to mathematical techniques used to analyze economic problems to gain a deeper understanding of economic decision making through the use of mathematical models. Topics include comparative statistics, optimization problems, dynamics, and mathematical programming. Mathematical techniques covered include matrix algebra, differential and integral calculus, differential equations, and difference equations. Prerequisites: ECON 102 and MATH 130 or 150.

490 [190] Senior Seminar (3)

A course to enhance analytical and research skills in the field of economics. Students will develop individual research projects of their own interest, integrating relevant concepts from business and economics. Prerequisite: Senior standing. (Spring semester only)

494 [194] Special Topics (3)

Topics of current interest in economics. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: ECON 102 and consent of instructor.

498 [198] Internship (3)

Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of economics, business, and accounting principles. Placement must emphasize economics field. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Economics majors only; junior Economics majors with 75 units and senior Economics minors with consent of instructor.

499 [199] Independent Study (1-3)

Study of economic theory and public policy through selective readings and research. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Economics or Business Economics major, senior standing, and consent of instructor.

ETHICS AND LAW (ETLW)

302 [BUS 142] Business and Society (3)

This course examines principles of social responsibility, ethics, law, and stakeholder theory as they apply to organizations domestically and abroad. Coverage includes business ethics; individual versus societal interests; labor and employment issues; consumer protection; discrimination and diversity; the natural environment; politics, public policy, and government regulation of business. Particular attention is given to developing moral reasoning skills. Meets the requirements for the Environmental Studies minor. Prerequisite: MGMT 300.

311 [BUS 145] Business Law I (3)

Covers the fundamentals of United States law and legal system, relationship of law to ethics, criminal law, torts, contracts, agency, risk management, insurance, and hiring and managing an attorney. Special emphasis is given to preventing legal problems and resolving conflicts in business for business practitioners. Systems and methods of dispute resolution are considered, including negotiation, mediation, arbitration, and the U.S. judicial system, including small claims court.

312 [BUS 146] Business Law II (3)
Continued study of the legal environment of business, including such topics as creation, operation and termination of partnerships and corporations, sale of goods, and negotiable instruments. Case study. Prerequisite: ETLW 311.

403 [BUS 143] Environmental Management (3)
This course analyzes the effect of business activities on the environment. Environmental public policies are examined as well as selected corporate environmental policies. The course addresses a myriad of questions, such as: Is there an inherent conflict between business profits and environmental protection? Can humans conduct business without harming the environment? What are the environmental consequences if the developing world reaches the same level of consumption as the developed world? Should the developed world reduce its level of consumption? Does the developed world have an obligation to the undeveloped world? If so, what is it? What is the meaning of sustainable economic growth? How is sustainable economic growth achieved? Meets the requirements for the Environmental Studies minor.

494 [BUS 194] Special Topics (3)
Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [BUS 198] Internship (3)
Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [BUS 199] Independent Study (1-3)
Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

FINANCE (FINA)

300 [BUS 110] Financial Management (3)
A study of the forms, sources, and management of business capital. The finance function and its relation to other business functions and to general policy objectives are considered. Topics include: capital requirement, short and intermediate financing, management of current assets, capital budgeting, and the cost of capital. Prerequisites: ACCT 201, ECON 102, and ECON 216.

401 [BUS 111] Financial Institutions (3)
An examination of the interaction among financial institutions, financial markets, and the economy. Topics include the trends of financial institutions, interest rate structure, and the security and mortgage markets. Prerequisite: FINA 300.

402 [BUS 112] Investments (3)
Surveys the basic principles and techniques of investment analysis. Market analysis methods are examined critically, and sources of analytical information and their use are studied. Prerequisite: FINA 300.

405 [BUS 115] International Financial Management (3)
An introduction to the problems facing the financial management of international companies. Topics include foreign exchange exposure management, financing trade, foreign direct investments, international accounting, and control and working capital management. Prerequisite: FINA 300.

494 [194] Special Topics (3)
Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [198] Internship (3)
Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [199] Independent Study (1-3)
Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

INFORMATION TECHNOLOGY MANAGEMENT (ITMG)

100 [BUS 086] Information Systems (3)

An introduction to computer-based information systems and their role in business and other organizations. Topics include information technology, information systems and development concepts, and application software. Emphasis on improving student skills as knowledge workers through the effective use of business productivity software and the Internet. Instructional methods include lecture, case study, hands-on projects, and student presentations.

300 [BUS 087] Structured Programming for Business Applications (3)

The study of advanced methods and techniques in decision support application development using spreadsheet, database, and visual programming software. The course enables students to solve business problems by integrating tools including spreadsheets, database, programming languages, and the Internet. The course stresses development of complete, turnkey systems with programming facilities available in decision support software programs. Heavy emphasis is placed on logical processes and developing programming skills. Prerequisite: ITMG 100.

301 [BUS 088] Database Design and Implementation (3)

The theory and practice of designing, implementing, and modifying information systems that use database management software. Topics include: best practices in data modeling, data normalization, and database design; database implementation methods; and the use and evaluation of alternative database management software packages. Instructional methods include lecture, demonstrations, group problem-solving exercises, a major database design and implementation project, and student presentations. Prerequisite: ITMG 100.

380 [BUS 180] Electronic Commerce (3)

Overview of current practice in electronic commerce, broadly defined to include business processes and the activities of not-for-profit organizations. Includes discussion of enabling technologies and business strategies. Also includes discussion of international, legal, and ethical issues that arise in conducting electronic business.

381 [BUS 181] Web Site Design (3)

Examines the design of Web sites for business and organizations. Topics include: planning a Web site, understanding the principles and elements of effective Web site design, using Web development and design tools, and evaluating Web site effectiveness. Elements of consistent Web page design as components of overall Web site design are emphasized. Effective communication of concepts and analysis in written format and oral presentations is stressed. Teaching methods include class lecture, case studies, and Internet laboratory research projects. Prerequisite: ITMG 100.

385 [BUS 185] Management Information Systems (3)

A management-oriented overview of information systems with an emphasis on ways to analyze and use information technologies from the perspective of a business professional. Topics include: international competitive uses of information systems; various ways of using information technologies in business processes, products, and services; impacts of information systems on the productivity of individuals and organizations; alternative methods for building information systems; factors leading to successful implementation of information systems; and threats and risks associated with information systems. Instructional methods include lecture, case study analysis, Internet-based projects, community service learning, technical writing, and presentations. Prerequisite: ITMG 100.

388 [BUS 188] Data Communications and Networks (3)

Introduction to the concepts, technology, and business practices related to the design and functioning of modern data communication networks. Topics include: various protocols, topologies, and configurations used in modern data communications networks; the characteristics, engineering, and economic trade-offs among essential network hardware and software components; and current telecommunications industry standards and emerging technologies. Hands-on projects introduce students to the nuances of design, implementation, and management of computer networks in real world environments using prevailing standard networking software. Prerequisite: ITMG 100.

489 [BUS 189] Information Systems Design and Implementation (3)

Develops skills in the design and implementation of object-oriented information systems on distributed platforms. Topics include: object-oriented programming methods; development of distributed applications; and Web-based interface design and interactivity with enterprise-wide databases. Hands-on projects provide students experience with real-world software development environments using state-of-the-art development methodologies and tools. Prerequisites: ITMG 100, 300, and 301.

494 [BUS 194] Special Topics (3)

Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [BUS 198] Internship (3)

Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [BUS 199] Independent Study (1-3)

Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

MANAGEMENT (MGMT)

300 [BUS 100] Organizational Behavior (3)

The study of human behavior in organizational settings. Examines the interface between human behavior and the organizational context, and presents frameworks for managing people in the organization. Topics addressed include: perceptual processes, personality, learning, motivation, attitudes, stress, group dynamics, intergroup behavior, conflict, power, politics, leadership, and cross-cultural implications. Behavioral science concepts are applied through self-assessment, case studies, and experiential exercises.

301 [BUS 101] Organizational Theory and Management Practice (3)

An analysis of the theories of organizational design, structure, development, and effectiveness from a managerial perspective. Topics addressed in this macro-oriented course include: systems theory; analysis of organization environments and their impact on organizations; organizational purposes, goals, and planning; organizational decision-making processes; technology and alternative organizational designs; information and control systems; functions of management; job design; environment-organization interface; and international and contemporary management issues. A contingency-systems approach is emphasized through case studies and simulations. Prerequisite: MGMT 300.

302 [BUS 102] Family Business (3)

Family-owned businesses make up as much as 80 percent of all U.S. businesses, including 175 of the Fortune 500. They face different challenges than their non-family-owned peers. This course discusses ways in which family-owned businesses are unique, stressing some of the special challenges they face, such as: grooming a management successor from within the family; implementing an estate plan to pass ownership of the business to the proper individuals while avoiding our confiscatorial estate tax; techniques for resolving family conflicts that erupt in the business and business conflicts that threaten to destroy the family; setting fair compensation for family members and non-family employees; and motivating non-family employees to support the family's goals. Family business is a cross-functional, multi-disciplinary study which includes aspects of management, communications and conflict resolution, law, estate planning, accounting and taxation, and family counseling.

303 [BUS 103] Interpersonal Relations (3)

An advanced course covering theories, research, and skill development in the area of interpersonal relations. Topics covered include interpersonal influence, conflict, emotional styles, communication, group roles, non-verbal behavior, and personal growth. Course concepts are integrated with classroom exercises and outside organizational experiences to provide the student with both knowledge and skills for interacting effectively with others in managerial and personal situations. Prerequisite: MGMT 300.

304 [BUS 104] Entrepreneurship and New Ventures (3)

An examination of the problems and processes for launching and/or purchasing business ventures. Topics include the nature and role of the entrepreneur, identifying and assessing potential opportunities for new ventures, structuring and staffing the new venture, preparing the business plan, attracting venture capital, and dealing with key legal issues. Prerequisites: MGMT 300, FINA 300, and MKTG 300.

305 [BUS 105] Career Development (3)

Study of the development of careers in work organizations. Principles of human resource skill development and patterns of success. Models for understanding individual and organizational career assessment and development. Principles of stress and coping mechanisms in career activities. Attention to successful individual and organizational practices. Particular emphasis on careers in management. Prerequisite: MGMT 300.

306 [BUS 106] Women in Management (3)

This course is designed to give women a repertoire of skills needed in various work-related situations. The course examines management requirements for various organizational levels and stresses the difference between personal and organizational issues.

307 [BUS 107] Human Resource Management (3)

An introduction to the roles of both the staff specialist and manager regarding the human resource management function. Topics include, but are not limited to, staffing, compensating, training, appraising, and developing an organization's human resources, as well as employment law, labor relations, and the strategic role of human resource management in today's organization. Prerequisite: MGMT 300.

308 [BUS 108] Small Business Management (3)
Application of the basic business disciplines to the small business environment. Examines both growth-oriented small firms on the way to becoming large firms and small, income-substitution firms. Issues include: managing to provide for the survival and growth of the small business; how smallness influences management processes such as recruitment and motivation of employees; and how smallness influences marketing, finance, operations, and other functional areas within the small firm. Prerequisites: MGMT 300, FINA 300, and MKTG 300.

309 [BUS 109] International Comparative Management (3)
Addresses the dilemmas and opportunities that managers face as they work in multicultural and global environments. The main objective of the course is to increase the effectiveness of managers/employees in identifying, understanding, and managing the cultural components of organizational dynamics. Focuses on the relationships between cultural values and the practice of managing people. Prerequisite: MGMT 300.

490 [BUS 190] Strategic Management (3)
This course develops skills in problem analysis and decision-making in areas of corporate strategy and business policy. It is the integrating course of the undergraduate program and will concentrate on the application of concepts through case studies. Open only to last-semester graduating seniors.

492 [BUS 192] Strategy Simulation (3)
Students will manage a company in a computer simulated oligopolistic industry. They will compete against companies managed by students from five other schools. Students will write detailed business plans, prepare budgets, and submit annual reports to shareholders while making management decisions for their company for 20 (simulated) quarters. Prerequisite: Written consent of instructor after competitive evaluation.

494 [BUS 194] Special Topics (3)
Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [BUS 198] Internship (3)
Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [BUS 199] Independent Study (1-3)
Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

MARKETING (MKTG)

300 [BUS 130] Fundamentals of Marketing (3)
An introduction to the critical role of marketing in our society with emphasis on the marketing concept, product, price, distribution, and promotion. Prerequisites: ECON 101.

301 [BUS 131] Services Marketing (3)
Examines the key characteristics that distinguish services from traditional goods marketing. Critical dimensions which customers utilize to determine quality services are emphasized. Attention is directed towards the development and demonstration of interpersonal and problem-solving skills. Learning activities can include: case analysis, marketing plan, and client-sponsored projects. Prerequisite: MKTG 300.

302 [BUS 138] Sports Marketing (3)
This course explores the complex and diverse nature of sports marketing. It applies fundamental marketing concepts to the sports industry, including the marketing mix, consumer behavior, marketing research, segmentation analysis, and assessment of marketing programs specific to sports. Guidelines for the formulation of marketing goals and strategies will be included. Trends, issues, and problems influencing the industry will also be examined. Prerequisite: MKTG 300.

305 [BUS 137] International Marketing (3)
An analysis of key international marketing activities and functions. Topics include environmental constraints, exporting, international product planning, and international selling and advertising. The various concepts are integrated through the development of a complete international plan for the marketing of a product in another country. Prerequisite: MKTG 300.

330 [BUS 135] Personal Selling (3)
Examines the role of personal selling in a firm's promotion and marketing strategy, and presents the principles and methods of persuasive communication. Concepts from the behavioral sciences are explored to show their application in sales situations. Attention is focused on the development and demonstration of effective sales presentation techniques. Prerequisite: MKTG 300.

350 [BUS 134] Advertising (3)
The role of advertising in society, business, and marketing. Human behavior, market selection, media planning, advertising appeals, preparation of copy, research decisions, and the campaign approach to advertising are covered. An actual advertising campaign is planned and developed as a requirement of the course. Prerequisite: MKTG 300.

355 [BUS 129] Introduction to Public Relations (3)
This course is an introduction to public relations as a component of marketing communications. The strategic planning and tactical implementation of public relations for organizations will be covered including a review of public relations campaigns. Discussion of the effects of research, public opinion, ethics, and laws on public relations activities will be covered. Crisis communications will be included. Career opportunities with public relations firms will also be covered. Prerequisite: MKTG 300.

410 [BUS 132] Marketing Research (3)
Emphasis is placed on the relationship between marketing research and the business decision. A complete marketing research project is developed. Topics include: research methodology and the business function, problem formulation and the role of research, data collection, and analysis. Prerequisites: ECON 216 and MKTG 300.

420 [BUS 136] Consumer Behavior (3)
Analysis of consumer behavior and motivation, principles of learning, personality, perception, and group influence, with emphasis upon mass communications effects. Prerequisite: MKTG 300.

465 [BUS 133] Retailing (3)
Essentials of retail management; market segmentation and market research for retail operations; buying and pricing functions; inventory control, budgeting. Prerequisite: MKTG 300.

480 [BUS 139] Advanced Marketing Project (3)
This course offers the opportunity to implement the basic fundamentals of marketing through an experiential learning situation, simulation, case analysis, or combination of these. May involve interaction with business or other organizations in the execution of marketing strategy. This course may not be repeated for credit. Prerequisite: MKTG 300.

490 [BUS 140] Marketing Strategy
Development of skills in analyzing practical marketing situations and the formulation and implementation of effective marketing strategies. Discussion of the relationship of the marketing process to the business function as a whole. Prerequisite: MKTG 300.

494 [BUS 194] Special Topics (3)
Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [BUS 198] Internship (3)
Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [BUS 199] Independent Study (1-3)
Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

REAL ESTATE (REAL)

320 [BUS 120] Principles of Real Estate (3)
A study of the principles and practices surrounding real estate assets within the U.S. financial markets. An investigation of urban economic forces on financing, investment, and valuation decisions and legal effects on market efficiency. Prerequisite: FINA 300.

325 [BUS 125] Financing Real Estate (3)
An overview of the financial markets and institutions through which residential and commercial real estate are financed. Focus includes government legislation and regulation and how they affect the cost and availability of real estate financing. Includes discussions of the role played by trade associations and the media in government policy-making affecting real estate finance.

327 [BUS 127] Legal Aspects of Real Estate (3)
Study of the historical, foundational, and fundamental legal principles involving both commercial and residential real estate. The course explores issues, case studies, and current events in the area of real estate law and ethics in the real estate marketplace. Special emphasis is given to transactions, investments, and the development of real estate, as such relates to contracts, land use requirements, environmental concerns, and risk management matters. This course fulfills one of the requirements for the California Department of Real Estate broker examination.

428 [BUS 128] Commercial Real Estate Valuation

This course is a review of real estate valuation techniques. The fundamentals of income capitalization, sales comparison, and cost approaches to appraisal theory are discussed using practical examples. Through the use of commercial real estate software valuation tools, participants will gain the understanding of appraisal procedures used to analyze data and derive value estimates for every category of income producing property. The importance of ethical judgment and industry standards will be emphasized along with the reconciliation process and preparation of the final appraisal report. Prerequisite: REAL 320 and REAL 325 or 327.

494 [BUS 194] Special Topics (3)

Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [BUS 198] Internship (3)

Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [BUS 199] Independent Study (1-3)

Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

SUPPLY CHAIN MANAGEMENT (BSCM)

300 [BUS 170] Supply Management (3)

This course examines Supply Management's contribution to meeting an organization's need to produce quality products at competitive prices in a timely manner. Supply Management's roles in the development of new products and services, identification and selection of the "right" source, at the "right" price, together with the development and nurturing of partnerships and strategic alliances are addressed. Course principles are applicable to manufacturing, retailing, service, not-for-profit, and governmental agencies.

303 [BUS 173] Contract Pricing (3)

This course introduces and provides students an opportunity to apply modern contract pricing concepts, principles, and techniques. Topics covered include the economic principles underlying pricing, price analysis, cost analysis, Cost-Volume-Profit analysis, contract compensation agreements, profit analysis, and negotiation. Prerequisites: ACCT 202, ECON 101, and BSCM 300.

494 [BUS 194] Special Topics (3)

Topics of current interest in business administration. Course content and structure will differ depending on instructor. Consult your advisor for course description for any given semester. May be repeated once for credit. Prerequisite: Consent of instructor.

498 [BUS 198] Internship (3)

Experiential learning working in a business, government, or non-profit organization. Placements provide the opportunity for practical application of business, economics, and accounting principles. See schedule of classes for special meeting times. This course may not be repeated for credit. Prerequisite: Senior Business, Accounting, or Economics majors only; junior majors with consent of the instructor.

499 [BUS 199] Independent Study (1-3)

Independent study including empirical research and written reports. A maximum of 3 units of independent study may be used to satisfy requirements for the major. Prerequisites: Senior standing and consent of instructor.

Engineering Programs

Kathleen A. Kramer, Ph.D., Director

Electrical Engineering Program
Thomas A. Kanneman, Ph.D.
Ernest M. Kim, Ph.D., P.E.
Kathleen A. Kramer, Ph.D.
Susan M. Lord, Ph.D.
Mikaya L. D. Lumori, Ph.D.
Michael S. Morse, Ph.D., J.D.
Thomas F. Schubert, Jr., Ph.D., P.E.

Industrial and Systems Engineering Program
Bradley Chase, Ph.D.
Luke T. Miller, Ph.D.
Rick T. Olson, Ph.D.
Leonard A. Perry, Ph.D.

Mechanical Engineering Program
Frank G. Jacobitz, Ph.D.

MISSION

USD Engineering is dedicated to providing student-centered education emphasizing engineering fundamentals and design, to advancing scholarship in engineering education, and to pursuing application-driven research.

The USD Engineering Programs are crafted to meet the traditions of USD for quality undergraduate education, the curriculum requirements for professional accreditation, and the ever-increasing demands by industry for a more broadly-educated engineer capable of meeting the future demands and challenges of changing technology in a global economy and society.

The Programs are nine-semester, integrated programs of study leading to a Bachelor of Science/Bachelor of Arts (B.S./B.A.) dual degree in a specified field of Engineering. They are built upon a foundation in mathematics, physics, computers and chemistry, as well as a strong General Education component. In addition to a sound preparation in engineering science, design, and professional practice, the curriculum addresses written and oral communication, human values and relations, and ethics.

UNIQUE FEATURES

The USD Engineering Programs are undergraduate programs culminating in a unique dual B.S./B.A. degree that results from a combination of intensive technical education and the USD emphasis on a broad liberal education. Each engineering program has breadth and depth in the engineering discipline, including an extensive laboratory component in outstanding laboratory facilities dedicated to undergraduate instruction. USD Engineering students can expect a personalized education in small classes with a curriculum that emphasizes preparation for work in industry and the development of professionalism and values.

PROFESSIONAL ACCREDITATION

USD is committed to achieving and maintaining professional accreditation by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET) to cover all engineering graduates. Both the Electrical Engineering Program and the Industrial and Systems Engineering Program achieved this goal and have been accredited since 1992 and 2001, respectively. In keeping with EAC/ABET guidelines, an inaugural Mechanical Engineering accreditation visit will be scheduled upon first graduates of that program.

ACADEMIC ADVISING

All Engineering students are assigned an Engineering Advisor who tracks the student's progress toward attaining an Engineering degree. The advisor and student work together to ensure that the student is making satisfactory progress toward graduation. Freshmen are assigned an engineering advisor only if they enroll in the Engineering 101 Preceptorial during their first semester. Transfer students are initially advised by the Director of Engineering and then assigned a permanent Engineering Advisor.

RECOMMENDED PRIOR PREPARATION

To complete an Engineering Program following a standard pattern, incoming freshmen should be prepared to enroll in Calculus, English Composition and Literature, and Foreign Language III. Background deficiencies in any of the above areas may be removed at USD, but the credit earned may not be applied toward minimum graduation requirements for the Engineering major.

Transfer students often find it helpful to contact an Engineering advisor at the earliest opportunity for evaluation of their background preparation. The first two years of the Engineering Programs at USD are closely coordinated with those of many community colleges and state universities in California, making it possible to transfer from such institutions to USD with minimal disruption. Students transferring to USD Engineering will be placed in the standard sequence at the place that matches their preparation. While the Engineering Programs are designed to be completed in nine semesters, students may be able to complete engineering degree requirements in four years with a combination of prior preparation, AP credit, and Intersession or summer study.

SPECIAL RESTRICTIONS ON THE USE OF THE PASS/FAIL OPTION

For Engineering majors, the pass/fail option is not permitted in any course required by specific course prefix and title in the appropriate Required Program of Study. With the foregoing exceptions, the general University pass/fail regulations apply. See the description of the pass/fail option earlier in this *Bulletin*.

SPECIAL PROGRAM PATTERN FOR NROTC STUDENTS

NROTC requirements add 21 to 24 units to the standard program for Engineering majors. To meet the needs of NROTC and the major, a special program pattern has been constructed utilizing Intersession and Summer Session. One aspect of the pattern is the substitution of Naval Science 201 for the Engineering requirement of a communications science course. The NROTC scholarship covers the full Engineering Program. However, benefits beyond four years must be requested through the Naval Science Department.

ENGINEERING ADVISORY BOARD

The Engineering Advisory Board was organized in spring 1994 to expand the level and role of industry affiliates in the following areas: 1) Long-range planning for the continued development of engineering at USD; 2) developing and promoting cooperative programs and relations with industry and the San Diego community; 3) assisting in seeking sources of support for engineering and science programs and facilities; 4) facilitating recruitment and placement of engineering and science graduates; and 5) advising the USD engineering faculty and administration on issues related to the growth and evolution of the Engineering Program. The Board confers with the Department of Engineering at least three times a year.

BACHELOR OF SCIENCE/BACHELOR OF ARTS DUAL DEGREE PROGRAM IN ELECTRICAL ENGINEERING

Electrical Engineering [A professional program accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET)]

Electrical engineering is a profession that uses science, mathematics, computers, and other technology coupled with problem solving skills to design, construct, and maintain products, services, and systems using electricity and electronics. Electrical engineers work in researching, designing, developing, and operating many thousands of electrical systems and components that run our world. Electrical engineers are often associated with computer chips, power generation, or telecommunications. However, electrical engineers also specialize in such work as circuit design, computers and automatic control systems, microelectronics, electronic photography and television, energy sources and systems, and solid-state materials and devices. Electrical engineers work in the communications, aerospace, computer, electrical power, medical, semiconductor, and consumer electronics industries. Electrical engineering is a field with diverse challenges and many opportunities. Throughout the world, more students major in Electrical Engineering (EE) than any other engineering discipline.

The EE program at USD encompasses a breadth of traditional fields and provides depth in electronics, signal analysis, and digital systems. In addition, students complete the broad range of general education requirements that lead to a unique dual B.S./B.A. degree in Electrical Engineering. Within the curriculum, special emphasis is placed upon engineering design and the use of the computer both as an engineering tool and as an integral component in systems. Both emphases are integrated throughout the curriculum with basic concepts introduced during

REQUIRED PROGRAM OF STUDY ENGINEERING LOWER-DIVISION

FRESHMAN YEAR	FRESHMAN YEAR	SOPHOMORE YEAR	SOPHOMORE YEAR
SEMESTER I	SEMESTER II	SEMESTER I	SEMESTER II
Mathematics 150 (4)	Mathematics 151 (4)	Mathematics 250 (4)	Mathematics 310 (3)
Chemistry 151/151L (4)	Physics 270 (4)	Physics 271 (4)	Physics 272 (3) or
ENGR 101 (Precept) (3)	ENGR 102 (3)	MENG 210 (3)	MENG 260 (3)
GE Electives (6)	ENGR 121* (3)or GE (3)	ENGR 121* (3) or	ISyE 220** (3)
	GE Electives (3)	GE (3)	ELEC 200 (4) or
		GE Elective (3)	ELEC 201 (4)
			Communication
			Studies 103*** (3)

*Electrical Engineering students may substitute Computer Science 150 for ENGR 121.
**Electrical Engineering and Mechanical Engineering students may substitute Economics 101 for ISyE 220.
***NROTC students may substitute Naval Science 201 for Communication Studies 103.

the first two years, followed by increasing levels of application complexity throughout the upper-division courses.

The *Educational Objectives* of the USD Electrical Engineering Program are to develop graduates who:

1. are able to apply their electrical engineering and broad academic backgrounds in their professional and personal endeavors;
2. can adapt to evolving job responsibilities;
3. can contribute effectively on a team and provide leadership in their professional careers.

Fast-changing technologies in the field of Electrical Engineering mean that life-long learning is a necessity for members of the profession. The significance of Electrical Engineering technologies in affecting the quality of life throughout the world creates additional professional responsibilities. As part of these professional obligations, all EE majors are required to maintain student membership in the Institute of Electrical and Electronic Engineers, Inc. (IEEE).

Electrical Engineering Advisory Board

The Electrical Engineering Advisory Board (EEAB) was organized in summer 2001 to represent to the interests of the electrical engineering industry and alumni to the Electrical Engineering Program. The Board, composed of representatives from companies including SAIC, Applied Microcircuits Corporation, ViaSat Inc., Copper Mountain Networks Inc., and others, serves to expand the level and role of industry affiliates in the continued development of the Electrical Engineering Program and in the promotion of cooperative programs and relations with industry and the San Diego community.

Requirements for the EE Major
151 semester-units

The mathematics, science, and engineering courses listed below also satisfy the General Education requirements in mathematics competency, natural sciences, and the upper-division writing course.

Mathematics and Basic Science Requirements
36-39 units
Mathematics (21 units): Mathematics 150, 151, 250, 310, 311, 315 (or 350 or ISyE 330)
Physics (8-11 units): Physics 270, 271, 272 (or MENG 260)
Chemistry (4 units): Chemistry 151, 151L
Life Science Elective (3 units)

Engineering Core Requirements
22-25 units

These courses include units in engineering science and design and other subject requirements in support of engineering practice: ENGR 101, 102, 121 (or Computer Science 150), 311, 401W; MENG 210, 260 (or Physics 272); ELEC 201.

Electrical/Electronics Engineering Requirements
48 units

These courses include units in electrical engineering science and design. There are 11 required courses: ELEC 301, 302, 310, 320, 340, 350, 430, 460, 470, 491, and 492, and eight units of approved ELEC electives (including at least two 3- or 4-unit courses). Approved ELEC electives include ELEC 410, 412, 450, 472, 480, and 494. New elective offerings are often made available; a complete list of approved electives can be obtained from the Chair of Electrical Engineering.

General Education (GE) Requirements
42 units

All Electrical Engineering majors must satisfy the Foundations Curriculum in General Education specified by the University. In addition to categories covered under the major requirements above, the Electrical Engineering Program requires the following specific courses: Philosophy 342 – Engineering Ethics; Communication Studies 103 – Public Speaking or Naval Science 201 – Leadership and Management; and Economics 101 – Principles of Microeconomics or ISyE 220 – Engineering Economics.

REQUIRED PROGRAM OF STUDY
UPPER-DIVISION ELECTRICAL ENGINEERING

JUNIOR YEAR	JUNIOR YEAR	SENIOR YEAR 1	SENIOR YEAR 1	SENIOR YEAR 2
SEMESTER I	SEMESTER II	SEMESTER I	SEMESTER II	SEMESTER I
Mathematics 311 (3)	Mathematics 315* (3)	ENGR 401W (3)	ELEC 460 (4)	ELEC Elective (4)
ENGR 311 (3)	ELEC 302 (4)	ELEC 320 (3)	ELEC 491 (3)	ELEC 492 (3)
ELEC 301 (4)	ELEC 340 (4)	ELEC 430 (4)	ELEC Elective (4)	GE Electives (9)
ELEC 310 (4)	ELEC 350 (3)	ELEC 470 (4)	Philosophy 342 (3)	
GE Elective (3)	GE Elective (3)	GE Elective (3)	GE Elective (3)	

Total Units (Standard Pattern): 151
*Electrical Engineering students may substitute Mathematics 350 or ISyE 330 for Mathematics 315.

It is possible to meet the EAC/ABET curriculum requirements and the USD GE requirements in fewer than the nominal 151 units. Up to 9 units of the USD GE requirements (written literacy, logic, and foreign language) can be satisfied by demonstrating competency in the particular area. Each demonstrated competency will reduce the minimum number of units required for the degree by 3 units. Consult an electrical engineering advisor for evaluation of credits.

Available Minors

The Electrical Engineering standard pattern qualifies students for a minor in Mathematics without any additional courses. Interested majors should apply to the Mathematics Department for specific approval of the minor. Minors are possible in other areas, particularly Physics, but also Computer Science, Business Administration, etc., by the addition of courses not included in the engineering standard patterns. The interested student should consult this *Bulletin* or the specific department for guidance, as well as an engineering advisor for career-oriented advice.

BACHELOR OF SCIENCE/BACHELOR OF ARTS DUAL DEGREE PROGRAM IN INDUSTRIAL AND SYSTEMS ENGINEERING

Industrial and Systems Engineering [A professional program accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET)]

Industrial and Systems Engineering (ISyE) applies basic engineering skills from mathematics and the physical sciences, specialized analysis techniques, and an understanding of how people interact with machines and each other to design and evaluate the performance of systems in industry and the service sector. Examples of the types of systems that may be analyzed by ISyEs include health care delivery systems, product distribution systems, and manufacturing systems. The factor that most distinguishes ISyE from other engineering disciplines is the attention devoted to human involvement in the systems being analyzed.

Educational Objectives

The ISyE program seeks to develop graduates who:

- apply their education to design, develop, optimize, implement, or manage systems integrating people, materials, information, equipment, and energy;
- provide value to the organizations where they work by identifying and resolving problems encountered by internal or external customers;
- participate on cross-functional work teams to contribute to the success of their organizations.

To achieve these objectives coursework in the ISyE program emphasizes the process of developing analytical models for real-world systems and using computer-based techniques to explore ways in which the systems can be made to function more efficiently. The upper-division ISyE courses emphasize the general principles of designing and evaluating systems and the application of these principles to many different types of systems. Students also select one course in a technical area of personal interest. Because the analysis of systems frequently requires an understanding of topics from the field of business administration, the ISyE program appropriately draws upon the expertise of the faculty in the School of Business Administration.

The ISyE major student is expected to be involved in professional aspects of the field. Since the engineering profession places a high value on professional society involvement, students enrolled in the Industrial and Systems Engineering major are expected to be active student members of the Institute Industrial Engineers (IIE).

Requirements for the ISyE Major
149 semester-units

The Mathematics, Science, and Engineering courses listed below also satisfy the General Education requirements in mathematics competency, natural sciences, and the upper-division writing course.

REQUIRED PROGRAM OF STUDY
UPPER-DIVISION INDUSTRIAL AND SYSTEMS ENGINEERING

JUNIOR YEAR	JUNIOR YEAR	SENIOR YEAR 1	SENIOR YEAR 1	SENIOR YEAR 2
SEMESTER I	SEMESTER II	SEMESTER I	SEMESTER II	SEMESTER I
ENGR 311 (3)	ISyE 335 (4)	ENGR 401W (3)	ISyE 410 (4)	ISyE 492 (2)
ISyE 310 (3)	ISyE 340 (3)	ISyE 430 (3)	ISyE 420 (4)	ISyE Program Elective (3)
ISyE 320 (4)	ISyE 350 (4)	ISyE 440 (4)	ISyE 470 (3)	GE Electives (12)
ISyE 330 (3)	GE Electives (6)	ISyE 450 (3)	ISyE 491 (3)	
GE Elective (3)		ISyE 460 (3)	Philosophy 342 (3)	

Total Units (Standard Pattern): 149

Mathematics and Basic Science Requirements
30-33 units
Mathematics (18 units): Mathematics 150, 151, 250, 310 or 320
Physics (8-11 units): Physics 270, 271, 272 (or MENG 260)
Chemistry (4 units): Chemistry 151, 151L
Life Science Elective (3 units)

Engineering Core Requirements
28-31 units

These courses include units in engineering science and other subject requirements in support of engineering practice: ENGR 101, 102, 121, 311, 401W; ISyE 220, 330; ELEC 200 or 201; MENG 210, MENG 260 (or Physics 272).

Industrial and Systems Engineering Requirements
49 units

These courses include units in ISyE science and design. There are fourteen required ISyE courses: ISyE 310, 320, 335, 340, 350, 410, 420, 430, 440, 450, 460, 470, 491, and 492. Students also select one additional ISyE program elective (three units). This course may be any course related to the practice of ISyE and is approved by the student's advisor.

General Education (GE) Requirements
39 units

All ISyE majors must satisfy the Foundations Curriculum in General Education specified by the University. In addition to categories covered under the ISyE major requirements below, the ISyE program requires the following specific General Education courses: Philosophy 342 – Engineering Ethics and Communication Studies 103 – Public Speaking or Naval Sciences 201 – Leadership and Management.

It is possible to meet the EAC/ABET curriculum requirements and the USD GE requirements in fewer than the nominal 149 units. Up to 9 units of the USD GE requirements (written literacy, logic, and foreign language) can be satisfied by demonstrating competency in the particular area. Each demonstrated competency will reduce the minimum number of units required for the degree by 3 units. Consult an ISyE advisor for evaluation of credits.

BACHELOR OF SCIENCE/BACHELOR OF ARTS DUAL DEGREE PROGRAM IN MECHANICAL ENGINEERING

The second largest engineering discipline, Mechanical Engineering (ME) is a broad field of study primarily concerned with the conversion and transmission of energy. It includes study in these four areas:

- *Thermal Sciences*, including the study of the efficient conversion of energy that allows the development of commercial power plants, environmentally friendly lawn mower engines, and cryogenic medical devices used to treat cancer.
- *Mechanisms* such as gears, springs, and bearings used in the design of machines and devices to move objects and perform work.
- *Materials* including the physical properties of metals and plastics and the ways those materials can be transformed into useful devices.
- *System Design* which considers how individual components can be put together to satisfy the need for electromechanical products ranging from a door handle, to a chain saw, to the space shuttle.

The USD Mechanical Engineering curriculum is broad-based and design-oriented. The first two years of study are substantially the same as for the Electrical Engineering and Industrial and Systems Engineering Programs. The Mechanical Engineering Program includes 150 units and has a standard course pattern with nine semesters. While the curriculum is designed to be completed in nine semesters, students may be able to complete the program in four years with a combination of prior preparation, AP credit, and summer study. An extensive laboratory component supports and complements theory and practice.

REQUIRED PROGRAM OF STUDY UPPER-DIVISION MECHANICAL ENGINEERING

JUNIOR YEAR	JUNIOR YEAR	SENIOR YEAR 1	SENIOR YEAR 1	SENIOR YEAR 2
SEMESTER I	SEMESTER II	SEMESTER I	SEMESTER II	SEMESTER I
ENGR 311 (3)	MENG 360 (3)	ENGR 401W (3)	ELEC 460 (4)	MENG 492 (3)
ISyE 330* (3)	MENG 370 (3)	MENG 400 (3)	ISyE 350 (4)	MENG Elective (3)
MENG 300 (3)	MENG 375 (3)	MENG 420 (2)	MENG 460 (3)	GE Electives (9)
MENG 320 (2)	MENG 380 (3)	MENG 430 (3)	MENG 470 (2)	
Philosophy 342 (3)	MENG 385 (3)	MENG 435 (3)	MENG 490 (2)	
GE Elective (3)	GE Elective (3)	GE Elective (3)	GE Elective (3)	

Total Units (Standard Pattern): 150
*Mechanical Engineering students may substitute Mathematics 315 for ISyE 330.

The Mechanical Engineering Program prepares program graduates to work for small or large companies in most industries throughout Southern California, the United States, and internationally. It also prepares graduates for a career in government, to enter graduate school in an area related to Mechanical Engineering, as well as to pursue a professional degree, for example in business or law. Student will be qualified to take the Fundamentals of Engineering exam as the first step towards professional registration.

Students majoring in Mechanical Engineering are expected to advance the integrity, honor, and dignity of their chosen profession. As part of these professional obligations, all ME majors are required to maintain student membership in the American Society of Mechanical Engineers (ASME).

Educational Objectives

The Mechanical Engineering Program seeks to develop graduates who:

- are able to apply their mechanical engineering and broad academic backgrounds in their professional and personal endeavors.
- can adapt to evolving job responsibilities.
- effectively communicate technical and non-technical ideas orally and in writing.
- can contribute effectively on a team and provide leadership in their professional careers.

Professional Accreditation

The Mechanical Engineering Program is committed to pursuing achieving and maintaining accreditation by the Engineering Accreditation Commission (EAC) of the Accreditation Board of Engineering and Technology on a schedule that will cover all of the program graduates.

Mechanical Engineering Advisory Board

A Mechanical Engineering Advisory Board will be organized in the 2004-2005 academic year. The Board will represent the interests of industry, government, and alumni; contribute to the future development of the Mechanical Engineering Program; and provide mentorship and internship opportunities to our students.

Requirements for the Mechanical Engineering Major 150 semester-units

The Mathematics, Science, and Engineering courses listed below also satisfy the General Education requirements in mathematics competency, natural sciences, and the upper-division writing course.

Mathematics and Basic Science Requirements
33 units
Mathematics (18 units): Mathematics 150, 151, 250, 310, and ISyE 330 (or Mathematics 315)
Physics (8 units): Physics 270 and 271
Chemistry (4 units): Chemistry 151, 151L
Life Science Elective (3 units)

Engineering Core Requirements
25-28 units

These courses include units in engineering science, computer programming, engineering design, and other subject requirements in support of engineering practice: ENGR 101, 102, 121, 311, 401W; ISyE 220 (or Economics 101); MENG 210, 260; ELEC 200 or 201.

Mechanical Engineering Requirements
50 units

These courses include units in mechanical engineering science, laboratory, and design. There are seventeen required courses: MENG 300, 320, 360, 370, 375, 380, 385, 400, 420, 430, 435, 460, 470, 490, 492; ELEC 460; and ISyE 350 and one MENG elective course. A list of approved mechanical engineering electives is available from the Director of the Engineering Programs.

General Education (GE) Requirements
39-42 units

All Mechanical Engineering majors must satisfy the Foundations Curriculum in General Education specified by the University. In addition to categories covered under the major requirements above, the Mechanical Engineering Program requires the following specific courses: Philosophy 342 – Engineering Ethics; Communication Studies 103 – Public Speaking or Naval Science 201 – Leadership and Management; and Economics 101 – Principles of Microeconomics or ISyE 220 – Engineering Ethics.

It is possible to meet the EAC/ABET curriculum requirements and the USD GE requirements in fewer than the nominal 150 units. Up to 9 units of the USD GE requirements (written literacy, logic, and foreign language) can be satisfied by demonstrating competency in the particular area. Each demonstrated competency will reduce the minimum number of units required for the degree by 3 units. Consult a mechanical engineering advisor for evaluation of credits.

Course Descriptions

Note: Most engineering, and many mathematics and science courses, required by the Engineering Program are offered only in the fall or spring semester, but not both. Consult individual course sections for semester offering pattern, or see an engineering advisor.

GENERAL ENGINEERING COURSES (ENGR)

101 [005] Introduction to Engineering (3)
[Required Preceptorial, Freshman Fall Semester]
Introduction to the field of engineering. Exploration of problem solving in lecture and laboratory projects in differing engineering disciplines. Introduction to engineering software tools. Intended for majors in Engineering or those exploring careers in engineering. Four hours lecture-recitation-laboratory weekly. Prerequisites: Concurrent enrollment in Mathematics 115 or 150 required. (Every fall)

102 [020] Introduction to Engineering Design Practice (3)
Planning, development, implementation, and documentation of a team design project including project proposals, design status reports, and final project reports. Topics in engineering graphics. Four hours lecture-recitation-laboratory weekly. Prerequisites: ENGR 101. Concurrent enrollment in Physics 270; Mathematics 150. Concurrent enrollment in Mathematics 151 recommended. (Every spring)

121 [017] Engineering Programming (3)
Fundamentals of computer usage and programming in a structured, high-level language as commonly used in engineering systems development and applications; modular programming principles; use of the operating system and language constructs for program input/output; object-oriented programming. Three hours lecture weekly. Prerequisites: Mathematics 150.

294 [094] Special Topics in Engineering (1-4)
Special topics in various areas of engineering science theory and practice, including laboratory. May be used to correct certain deficiencies in transfer work or for special projects. Prerequisite: Sophomore standing in Engineering and permission of the instructor. May be repeated for credit for up to four credits total toward degree requirements.

298 [098] Internship/Co-op Experience (1-3)
Directed lower-division internship or co-operative experience in an engineering or related activity. Usually involves a three-month summer work assignment with industrial firms or government agencies. Written report required. Credit not applicable to minimum Engineering Program graduation requirements. May be repeated for credit. Prerequisites: Permission of the Engineering Director; MENG 210 and ELEC 200 or 201 recommended. (Every summer)

311 [114] Engineering Materials Science (3)
Basic concepts of material structure and its relation to properties; atomic structure; mechanical, electrical, and magnetic properties; engineering applications; introduction to semiconductor physics. Three hours lecture weekly. Prerequisites: Chemistry 151 and 151L or equivalent; Physics 271; Mathematics 151. Physics 272 completed or concurrent recommended. (Every fall)

401W [190W] Engineering Communications (3)
Planning and preparing engineering publications and oral presentations based on directed library research to current engineering topics and practice. Written and oral reports in an engineering/management context. Three hours lecture-recitation weekly. Prerequisites: Junior standing in an Engineering major. Completion of Communication Studies 103 or Naval Science 201 recommended.

ELECTRICAL/ELECTRONICS ENGINEERING COURSES (ELEC)

102 [ENGR 002] Introduction to Electro-Technology (3)
Introduction to the underlying scientific principles of electrical and electronic technologies encountered in our daily lives. This course answers how and why for the student with minimal background in physical science. Foundations of both historic and emerging technologies, and how they affect our environment and society are presented. This course fulfills a non-laboratory General Education Physical Science requirement for non-majors. Three hours lecture-recitation-demonstration per week.

200 [ENGR 065] Electrical Engineering Principles and Applications (4)
Introduction to the basic concepts related to circuits and circuit elements, power and semiconductor devices. Selected topics that illustrate the variety of applications of electrical engineering. Three hours lecture and one laboratory weekly. Prerequisites: Mathematics 151, Physics 271; concurrent enrollment in Mathematics 310. Not open to Electrical Engineering majors. (Every spring)

201 [ENGR 060] Electrical Circuits (4)
Electrical element physical behavior and component models; network laws and analysis techniques; time and frequency domain techniques for the analysis of linear networks; computer-aided analysis using SPICE or approved equivalent; introduction to AC power; laboratory circuit

design, testing, and verification. Three hours lecture and one laboratory weekly. Prerequisites: Mathematics 151, Physics 271; concurrent enrollment in Mathematics 310. (Every spring)

301 [EEE 130] Electronics I (4)

Analysis and design of analog and digital electronic devices, circuits and systems including single and multiple transistor amplifiers, logic gates and other digital logic building block elements; low frequency models of bipolar junction transistors and field effect transistors; design features and characteristics of integrated circuit operational amplifiers; computer-aided analysis and design using SPICE; laboratory design, testing, and verification. Three hours lecture and one laboratory weekly. Prerequisite: ELEC 200 or equivalent. (Every fall)

302 [EEE 132] Electronics II (4)

Electronic circuit design, including integrated circuit realizations; computer-aided design using SPICE; power amplifiers and output stages; design of feedback amplifiers and active filters; frequency response including high frequency models of electronic devices; special devices and applications; laboratory design, testing, and verification. Three hours lecture and one laboratory weekly. Prerequisites: ELEC 301, concurrent enrollment in ELEC 350 (Every spring)

310 [EEE 110] Introduction to Microcomputers (4)

Introduction to a basic microprocessor and its applications, microcomputer systems organization, memory and I/O device interfacing, assembly language programming of a basic microprocessor, use of assemblers and other development tools. Three hours lecture and one laboratory weekly. Prerequisites: ENGR 121, ELEC 201 or equivalent and consent of instructor. (Every fall)

320 [EEE 120] Principles of Electrical Power (3)

Fundamentals of electrical power circuits and devices, electromechanical energy conversion, theory and analysis of magnetic circuits and transformers, theory and analysis of DC and AC electric machines including steady-state and dynamic characteristics, computer-aided analysis and simulation. Three hours lecture weekly. Prerequisites: ELEC 201 or equivalent, Mathematics 310. (Every fall)

340 [EEE 140] Systems Logic Design (4)

Analysis and design of combinational and sequential digital circuits; digital circuit design using MSI, LSI, and VLSI; digital systems design using programmable logic devices; design and simulation using a hardware description language; asynchronous sequential logic; digital electronics. Three hours lecture and one laboratory weekly. Prerequisites: ELEC 301, 310. (Every spring)

350 [EEE 150] Signals and Systems (3)

Mathematical modeling of physical systems; methods of analysis for linear, time-invariant systems; time and frequency domain analysis; Fourier series; Laplace and Fourier Transform methods of analysis; state variable representation; sampling theorem; simulation diagrams; introduction to discrete-time approximations and analysis; computer-aided analysis and simulation using MATLAB or equivalent. Three hours lecture weekly. Prerequisites: ENGR 121 or equivalent; ELEC 201 or equivalent; Mathematics 310. (Every spring)

410 [EEE 142] Microcomputer-Based Systems Design (4)

Use of microcomputer as an engineering system component in design; systems characteristics and programming of microprocessors, microcontrollers, and related architectures; data acquisition, control, timing, I/O, and interfacing; use of computer-aided tools for design and evaluation of microcomputer-based systems; design projects. Three hours lecture and one laboratory weekly. Prerequisite: ELEC 340.

412 Radio Frequency and Microwave Engineering (4)

An introduction to the design and analysis of active and passive radio frequency and microwave circuits. Topics include radio frequency and microwave circuit analysis, measurement methods, transmission line structures, matching networks, oscillators, and mixers. Computer-aided analysis and design. Three hours of lecture and one laboratory weekly. Prerequisites: Mathematics 311, ELEC 302, ELEC 430. Corequisite: ELEC 470.

430 [EEE 171] Applied Electromagnetics (4)

Principles of electromagnetic fields, propagation, and transmission; Maxwell's equations and classical solutions using boundary conditions; microwave transmission line principles and applications; waveguides; fiber optics; introduction to antennas. Computer-aided analysis and design. Three hours lecture and one laboratory weekly. Prerequisite: Mathematics 311; PHYS 271; ELEC 301, 350. (Every fall)

450 [EEE 161] Digital Signal Processing and Applications (4)

Analysis and design of sampled-data and discrete-time systems; *z*-transform and state-space techniques; introduction to hardware implementation; principles of digital signal processing and control including noise considerations; computer-aided analysis and design. Three hours lecture and one laboratory weekly. Prerequisites: ELEC 350; Mathematics 315 or equivalent completed or concurrent.

460 [EEE 160] Control Systems Engineering (4)

Analysis and design of linear feedback systems; control components; time, frequency, and transform domain representations and design techniques; systems specifications, performance indices, evaluation, and testing; controller and compensator design; complex frequency and state-variable techniques; computer-aided design and simulation; introduction to discrete event, sampled-data, discrete-time, and non-linear systems analysis and design. Computer-aided design and simulation. Three hours lecture and one laboratory weekly. Prerequisites: ELEC 320, 350; Mathematics 311 or, for ME majors: ELEC 350 or MENG 375, 420. (Every spring)

470 [EEE 170] Communication Principles and Circuits (4)

Signal analysis, analog and digital modulation and detection techniques, modern communication circuits and devices. Application of probability theory and random processes to communication systems. Three hours lecture and one laboratory weekly. Prerequisites: ELEC 302, 350; Mathematics 311, 315, or equivalent completed or concurrent. (Every fall)

472 Wireless and Digital Communications (4)

Digital and wireless communication systems and modulation techniques. Schemes for multiplexing and multiple access in wireless networks. Propagation and channel coding issues. Practical issues in the design and development of cellular, satellite-based, and other wireless communication systems. Three hours of lecture and one laboratory weekly. Prerequisite: ELEC 470.

480 Optoelectronic Materials and Devices (4)

Introduction to the operation and design of optoelectronic materials and devices including compound semiconductors, fabrication, crystal growth, and devices such as lasers, LEDs, and detectors. Three hours of lecture and three hours of laboratory weekly. Prerequisites: ENGR 311, ELEC 301 completed or concurrent.

491 [EEE 191] Electrical Engineering Design and Practice I (3)

Proposal and design phase of a capstone project culminating in a documented and approved project to be implemented in Electrical Engineering Design and Practice II (ELEC 492). Computer-aided design techniques to study design alternatives and support the final design selection: evaluation of ethical, economic, societal, organization, and safety considerations in the design process; periodic oral and written reports. Two hours lecture-recitation and one laboratory weekly. Prerequisites: ENGR 401W, ELEC 302, ELEC 340. (Every spring)

492 [EEE 192] Electrical Engineering Design and Practice II (3)

Principles of engineering design of electrical and electronic circuits and systems; technical and non-technical considerations; planning, implementation, evaluation, and documentation of an engineering design project; written and oral proposal, design reviews, and final project report; application and computer-aided analysis and design. Two hours lecture-recitation, and one laboratory weekly, or approved equivalent via a sponsored internship project. Prerequisites: ELEC 491. (Every fall)

494 [EEE 194] Special Topics in Electrical Engineering (1-4)

Special topics seminar in areas of special interest to current engineering practice in electrical/electronics/computer engineering. May be repeated for credit. Prerequisites: Upper-division standing and consent of instructor.

498 [EEE 198] Internship/Co-op Experience (1-3)

Directed upper-division level internship/ co-operative experience in engineering research, design, development, manufacturing, or the engineering activity. Written report required. Credit not applicable to minimum program graduation requirement. Placement contingent upon approval of participating organization. May be repeated for credit. Prerequisites: Second semester junior standing in the EE major or consent of instructor. (Every summer)

499 [EEE 199] Independent Study (1-3)

Individual project in creative design and synthesis under the general supervision of a participating professor. Project proposal must be submitted and approved prior to enrollment. Prerequisite: Second semester junior standing in the EE major or approval of instructor. (Every semester)

INDUSTRIAL AND SYSTEMS ENGINEERING COURSES (ISYE)

220 [ENGR 050] Engineering Economics (3)

Principles of financial analysis appropriate for evaluating the economic impact of engineering projects. Three hours lecture weekly. Prerequisite: Sophomore standing in engineering. (Every spring)

310 [ISE 112] Work Analysis and Design (4)

Introduction to the fundamental methods for analyzing and designing procedures to perform operations in the workplace. Includes time and motion study, methods improvement, and workplace design. Ergonomic and safety issues associated with efficient design are presented. Three hours lecture and one laboratory weekly. Prerequisite: ENGR 101, Mathematics 151; Junior standing in engineering. (Every fall)

320 [ISE 120] Introduction to Systems Engineering (3)
Introduction to the theory and methods used to design and analyze systems. Principles of the system life-cycle including problem identification, description, modeling, solution, and implementation. Three hours lecture weekly. Prerequisite: ENGR 101, Mathematics 151, Junior standing in engineering. (Every fall)

330 [ENGR 116] Engineering Probability and Statistics (3)
Introduction to applied statistical analysis. Topics will include probability, sample statistics, distributions, hypothesis testing, and linear regression. Three hours lecture weekly. Prerequisite: Mathematics 250 completed or concurrent. (Every fall)

335 [ISE 145] Statistical Process Control (4)
Application of statistics to increasing quality and productivity. Deming's philosophy of quality, process control charts, Continuous Quality Improvement tools, and Total Quality Management. Three hours lecture and one laboratory weekly. Prerequisite: ISyE 330. (Every spring)

340 [ISE 151] Operations Research I (3)
Methods for developing and analyzing deterministic mathematical models. Topics include linear programming, networks, integer programming, and non-linear programming. Three hours lecture weekly. Prerequisites: Mathematics 250, Mathematics 310 or 320. (Every spring)

350 [ISE 161] Manufacturing Processes (4)
Description, classification, and analysis of manufacturing processes used in the transformation of metal, polymers, and ceramics into consumer or capital goods. Topics include: analysis of variables that affect process operations, performance, quality and cost, and the design of process plans. Three hours lecture and one laboratory weekly. Prerequisites: MENG 210, ENGR 311. (Every spring)

410 [ISE 122] Human Factors (4)
An introduction to the field of human factors engineering. Principles of workplace and environmental design to conform to the physical and mental abilities and limitations of people are presented. Three hours lecture and one laboratory weekly. Prerequisites: ISyE 310, 320. (Every spring)

420 [ISE 155] Simulation of Production and Service Systems (4)
Modeling and analysis of systems using computer-based discrete event simulation. Principles of modeling, validation, and output analysis are developed using high-level simulation languages. Three hours lecture and one laboratory weekly. Prerequisite: Engineering 121 or equivalent, credit or concurrent registration in ISyE 440. (Every spring)

430 [ISE 146] Design and Analysis of Engineering Experiments (3)
Systematic application of statistical techniques to the design and analysis of engineering experiments. Application of experimental design to the improvement of products, processes, and services. Topics will include analysis of variance, single factor experiments, factorial and fractional factorial experimental designs, robust design, and response surface methods. Three hours lecture weekly. Prerequisite: ISyE 330, ISyE 335, or consent of instructor. (Every fall)

440 [ISE 152] Operations Research II (3)
Methods for developing and analyzing stochastic mathematical models. Topics include Poisson processes, Markov processes, queuing, and decision analysis. Three hours lecture weekly. Prerequisites: ISyE 330, 340. (Every fall)

450 [ISE 162] Manufacturing Systems (4)
Application of computer technology to manufacturing operations. Description of current technology and the study of methods and decision variables used in the design of manufacturing systems. Topics include: CAD/CAM, numerical control, robotics, sensors, computer vision, group technology, flexible manufacturing systems, and computer integrated manufacturing. Three hours lecture and one laboratory weekly. Prerequisite: ENGR 121; ELEC 201; ISyE 350. (Every fall)

460 [ISE 165] Production Planning and Control (3)
Introduction to production planning and control techniques and their application to designing integrated production systems. Emphasis on the development and use of mathematical models and algorithms used to analyze and improve the use of material, labor, and information in production environments. Three hours lecture weekly. Prerequisites: ISyE 220, 340. (Every fall)

470 [ISE 166] Facilities Planning (3)
Analysis and design of production and service facilities. Analytical and computer-based techniques to assist with strategic planning, process design, material handling and flow, layout, and facility location. Three hours lecture weekly. Prerequisite: ISyE 440, 460 credit or concurrent registration in ISyE 450, 460, credit or concurrent registration in ISyE 420 recommended. (Every spring)

490 [ISE 192] Industrial Engineering Design (4)
Capstone senior design project. Application of principles of Industrial Engineering from throughout the curriculum to a design project. Written and oral reports, design reviews, final project report, and presentation. Three hours lecture and one laboratory weekly. Prerequisites: ENGR 401W; Credit or concurrent registration in ISyE 335, 350, 410, 420, 470.

491 ISyE Professional Practice (2)
Development of non-technical skills and knowledge needed to successfully manage projects in ISyE. Topics include project management, teamwork, the role of ISyE in an organization, career planning. Two hours of lecture weekly. Prerequisites: Senior standing in ISyE, credit or concurrent registration in ENGR 401W, Philosophy 342. (Every spring)

492 ISyE Design Project (2)
Capstone senior design project. Application of principles of Industrial Engineering from throughout the curriculum to a design project. Written and oral reports, design reviews, final project report and presentation. Two laboratories weekly. Prerequisites: ENGR 401W, Credit or concurrent registration in ISyE 410, 420, 430, 450, 470, 491. (Every summer and fall)

494 [ISE 194] Special Topics in Industrial and Systems Engineering (1-4)
Special topics seminar in areas of special interest to current engineering practice in Industrial and Systems Engineering. May be repeated for credit. Prerequisites: Upper-division standing and consent of instructor.

498 [ISE 198] Internship/Co-op Experience (1-3)
Directed upper-division level internship/co-operative experience in engineering research, design, development, manufacturing, or the engineering activity. Written report required. Credit not applicable to minimum program graduation requirement. Placement contingent upon approval of participating organization. May be repeated for credit Prerequisites: Second-semester junior standing in the ISyE major or consent of instructor.

499 [ISE 199] Independent Study (1-3)
Individual project in creative design and synthesis under the general supervision of a participating professor. Project proposal must be submitted and approved prior to enrollment. Prerequisite: Second-semester junior standing in the ISyE major or approval of instructor.

MECHANICAL ENGINEERING COURSES (MENG)

210 [ENGR 026] Engineering Mechanics (3)
Statics and dynamics of rigid bodies and systems of particles using vector methods in two and three dimensions; equations of equilibrium, friction; application of Newton's laws; energy and momentum methods. Three hours lecture weekly. Prerequisites: Physics 270; Mathematics 150. Mathematics 151 completed or concurrent recommended. (Every fall)

260 [ENGR 028] Introduction to Thermal Sciences (3)
Introduction to basic engineering thermodynamics, heat transfer, and fluid dynamics. Applications to engineering systems. Three hours lecture weekly. Prerequisites: Mathematics 250, MENG 210. (Every spring)

300 [ME 120] Applied Thermodynamics (3)
Further developments of concepts from classical thermodynamics. Application of laws of thermodynamics to gas, and vapor power cycles, mixtures of gases and vapors, and refrigeration cycles. Moist air analysis, and chemically reacting systems. Three hours lecture weekly. Prerequisites: MENG 260. (Every fall)

320 [ME 105] Computational Methods in Mechanical Engineering I (2)
Mechanical Design and Analysis using state-of-the-art CAD, kinematics, and FEA computer tools. Two three-hour laboratory weekly. Prerequisites: ENGR 101, 102, and concurrent registration in ENGR 311. (Every fall)

360 [ME 110] Intermediate Fluid Mechanics (3)
Basic law of fluid mechanics with applications to engineering problems, including Dimensional analysis and similitude, Boundary Layer analysis in internal and external Flows, Compressible flow, and Turbomachinery. Three hours lecture weekly. Prerequisites: MENG 260, 300 and Mathematics 310. (Every spring)

370 [ME 100] Strength of Materials (3)
Analytical methods for determining stress and strain, torsion, bending of beams, shearing stress in beams, combined stresses, principal stresses, deflection in beams. Three hours lecture weekly. Prerequisites: MENG 210; ENGR 311; Mathematics 310. (Every spring)

375 System Dynamics (3)
Analysis and design of dynamic systems in various engineering domains, including mechanical and electrical system modeling. Time-domain and frequency domain analysis. Three hours lecture weekly. Prerequisites: MENG 210 and concurrent enrollment in MENG 370. (Every spring)

380 [ME 130] Mechanical Design I (3)
Kinematics and dynamic analysis of machine members and design applications to linkages, cams, and gears. Machine balancing and mechanical systems subject to various constrains. Three hours lecture weekly. Prerequisites: ENGR 121 and concurrent enrollment in MENG 370. (Every spring)

385 [ME 135] Mechanical Engineering System Laboratory I (2)

Engineering experimentation. Instrumentation Theory, data analysis, and design of experiment. Experiments selected from engineering mechanics areas and digital programmable logic control (PLC). Two three-hour laboratory weekly. Prerequisites: ELEC 200 or 201; ISyE 330 or Mathematics 315; concurrent enrollment in MENG 360, 370. (Every spring)

400 [ME 140] Heat Transfer (3)

Heat transfer by conduction, convection, radiation, and combinations thereof. Introduction to heat exchanger analysis and design, along with other applications. Three hours lecture weekly. Prerequisites: MENG 360. (Every fall)

420 [ME 155] Computational Methods in Mechanical Engineering II (2)

Modeling, simulation, analysis, and design of mechanical engineering systems including dynamics, vibration, electromechanical, heat transfer, thermodynamic, fluid mechanic, and control. Introduction to virtual instrumentation using software such as Labview. Two three-hour computer laboratory weekly. Prerequisites: ENGR 121; ELEC 200 or 201; MENG 210, 300, 360, 375. Concurrent enrollment in MENG 400. (Every fall)

430 [ME 150] Mechanical Design II (3)

Introduction to design of machine components and machines, including shafts, bearings, gears, springs, and connectors. Design mechanical components under steady and fatigue loads. These are integrated into mini-design projects required of all students. Three hours lecture weekly. Prerequisites: MENG 320 and 380. (Every fall)

435 [ME 145] Mechanical Engineering System Laboratory II (2)

Advanced experimental design, data acquisition theory, and data analysis. Experiments selected from sub-disciplines of mechanical engineering. Focus includes thermodynamics, heat transfer, and vibration measurement analysis. Two three-hour laboratory weekly. Prerequisites: MENG 360, 385. Concurrent enrollment in MENG 400. (Every fall)

460 [ME 170] Mechanical Vibrations (3)

Analysis of mechanical vibration, single and multi-degree of freedom systems, free and forced vibrations, vibration isolation, vibration damping. Theory of vibration measuring instruments. Three hours lecture weekly. Prerequisites: MENG 375 and 420. (Every spring)

470 [ME 160] Computational Methods in Mechanical Engineering III (2)

Generation and Assembly of Finite Element matrices in one and two-dimensional problems. Modeling and practical applications in solid mechanics, fluid flow, and heat transfer. Two three-hours laboratory weekly. Prerequisites: MENG 360, 370, 400, and 420. (Every spring)

490 Senior Design Project Preparation (2)

This course prepares students to approach an engineering design project in a small team. Topics include project selection, research methods on the chosen project, a review of the design process, including concept generation, concept selection, construction, testing, and evaluation, as well as written and oral presentation skills. Two three-hour laboratory weekly. Prerequisites: ENGR 401W; MENG 375, 400, 430, 435. Concurrent enrollment in MENG 470; ELEC 460 (Every fall)

492 [ME 192] Senior Design Project (3)

Engineering Design Project in a simulated industrial environment. Student Design Team works in collaboration with an engineering faculty and an engineering professional from industry on a mechanical engineering project that is of contemporary interest to that specific industry. This involves designing, construction, testing, and evaluation of that engineering system. This project is judged completed upon presentation of final written and oral reports. In addition, consideration of issues related to ethics, economics, safety, and professional practice will be covered. One-hour lecture-recitation and two three-hour laboratory weekly. Prerequisites: MENG 490 (Every fall)

494 [ME 194] Special Topics in Mechanical Engineering (1-4)

Special Topics seminar in areas of special interest to current engineering practice in Mechanical Engineering. May be repeated for credit. Prerequisites: Upper-division standing and consent of instructor.

498 [ME 198] Internship/Co-op Experience (1-3)

Directed upper-division level internship/co-operative experience in engineering research, design, development, manufacturing, or the engineering activity. Written report required. Credit not applicable to minimum program graduation requirement. Placement contingent upon approval of participating organization. May be repeated for credit. Prerequisites: Second-semester junior standing in ME major or approval of instructor.

499 [ME 199] Independent Study (1-3)

Individual project in creative design and synthesis under the general supervision of participating professor. Project proposal must be submitted and approved prior to enrollment. Prerequisite: Second-semester junior standing in the ME major or approval of instructor.

Paralegal Studies Certificate Program

Susan M. Sullivan, M.A., Director

The Paralegal Studies Program is offered for students who are interested in law-related careers. The program can provide useful insights for students interested in law school, as well as give a basis for future decisions about their legal career.

Paralegals are trained members of a legal team who work under the supervision of attorneys. They are involved in most phases of legal services, including interviewing of clients, legal research, and the drafting of documents. Graduates of the program are employed by law firms, banks, corporations, and government agencies.

Students who successfully complete the program receive a certificate upon their graduation from USD. Employment assistance is available to graduates. Pre-employment workshops aid the student in preparing for the job search. This program is approved by the American Bar Association.

Students must formally apply for admission to the program and be accepted before they register for any paralegal studies courses. To be considered for the program, students must have achieved second-semester junior standing at USD and a grade point average of at least 3.0. All courses must be taken for a letter grade.

Courses are taught by practicing attorneys, each of whom has experience in his or her respective field of law.

The undergraduate certificate program in Paralegal Studies includes 18 units of course work. All students in the program must complete Paralegal Studies 400, 405, and 498. English 304W or an upper-division English literature course is a prerequisite or may be taken concurrently with Paralegal Studies 400 and 405. In addition, each student selects one specialty course from Paralegal Studies 420 or 450. Students must also take a non-credit computer class. Contact the program office or view the Web site at www.sandiego.edu/paralegal for more information.

COURSES (PLST)

400 [100] Overview of the Legal System (2)

This course will familiarize students with the nature, meaning, and source of law; the organization of the legal system and the legal profession; law office procedures; professional ethics; and areas not covered in the specialty.

405 [105] Legal Research (2)

Students will develop the skills necessary to do legal research by studying the structure of state and federal courts, as well as learning how to use primary and secondary sources of law; judicial reports; case findings; and annotated law reports.

420 [120] Business and Environmental Law (9)

This course will provide students with an understanding of the laws, procedures, and skills that are the foundation of environmental practice. This segment will familiarize students with the major environmental laws affecting business, development, and the management of natural resources. Particular emphasis will be given to issues impacting real estate transactions or development. The course will look at strategies for complying with regulations, supporting environmental litigation, and working within a regulatory agency.

450 [150] General Litigation (9)

This specialty will include theory and practical skills in the areas of civil and criminal litigation, family law, and contracts. Civil and criminal litigation will include both federal and state court rules and will emphasize procedures for processing cases through the court system. State court practice will be based on California law, but with sufficient understanding to be adapted to other states.

498 [197] Internship (2)

Students are placed in law offices, legal clinics, government agencies, and corporations to gain legal experience by working in the business environment.

RECOMMENDED PROGRAM OF STUDY

JUNIOR YEAR		SENIOR YEAR	
SEMESTER I	SEMESTER II	SEMESTER I	SEMESTER II
English 304W or comparable writing course	Paralegal Studies 400 Paralegal Studies 405	Paralegal Studies 420 or 450	Paralegal Studies 498