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A variable topic course designed for a selected topic in Biology. Workshops provide an intensive learning experience on a new topic in the Biological Sciences and/or hands-on experiences in a current area not covered by other course offerings. The course involves background reading, demonstrations, and laboratory or field experiences.

**591 (1-4) In-Service (F,S)**

**601 (2) Biometrics (F)**

This course will focus on the application of biometric principles to the planning and analysis of biological research similar to the student's thesis research. Completion of this course will aid the student in planning and completing her/his thesis.

**602 (2) Research Methods (S)**

The design, planning, and writing of a research proposal will be discussed in terms of problem selection, objectives, and appropriate methods. The students will apply information from the class to prepare their thesis proposals.

**612 (3) Practicum in Electron Microscopy (S)**

A laboratory course of basic training in the instrumentation and methodology use in scanning and transmission electron microscopy. With a hand-on approach, students will learn instrument operation and techniques necessary to process and examine a variety of samples, and whenever possible, to examine specimens related to their own research interests.

Pre: BIOL 418/518

**619 (2-3) Selected Topics in Biology (F,S)**

Selected study of graduate level topics. May be repeated for different titled topic.

**All 677 courses are offered in the Fall and Spring:**

**677 (1-5) Individual Study**

Pre: Consent

**677-01 (1-5) Individual Study: Biology Education**

Pre: Consent

**677-02 (1-5) Individual Study: Biology**

Pre: Consent

**677-03 (1-5) Individual Study: Plant Biology**

Pre: Consent

**677-04 (1-5) Individual Study: Animal Biology**

Pre: Consent

**677-05 (1-5) Individual Study: Microbiology**

Pre: Consent

**677-06 (1-5) Individual Study: Cardiac Rehabilitation**

Pre: Consent

**677-07 (1-5) Individual Study: Ecology**

Pre: Consent

**677-08 (1-5) Individual Study: Physiology**

Pre: Consent

**677-09 (1-5) Individual Study: Biotechnology**

Pre: Consent

**677-10 (1-5) Individual Study: Electron Microscopy**

Pre: Consent

**677-11 (1-5) Individual Study: Genetics**

Pre: Consent

**677-12 (1-5) Individual Study: Anatomy**

Pre: Consent

**677-13 (1-5) Individual Study: Cell Biology**

Pre: Consent

**677-14 (1-5) Individual Study: Immunology**

Pre: Consent

**681 (1-2) Lab Supervision (F,S)**

Practical experience in preparing and teaching laboratory courses.

Pre: Consent

**685 (2) Teaching Assistant Methods (F)**

This course is design to provide Teaching Assistants with the knowledge and skills needed to prepare and teach college-level science courses. Special emphasis will be placed on the attainment of skills that maximize the effectiveness of material that will be presented to students.

**691 (1-5) In-Service (F,S)**

**694 (1 or 2) Alternate Plan Paper (F,S)**

**695 (1) Seminar (F,S)**

Students will attend and critique seminars presented by other students, faculty, and by people from external agencies and institutions.

Pre: None

**697 (1-12) Internship (F,S)**

**699 (3-6) Thesis (F,S)**

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## **BUSINESS ADMINISTRATION MBA**

*College of Business*

*150 Morris Hall • 507-389-5426*

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**Admissions to the MBA program are currently suspended.** Courses may be used as electives in other programs, or as part of a multidisciplinary program.

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### **COURSE DESCRIPTIONS**

#### **MBA**

**500 (0) Introduction of MBA**

MBA requirements, plan of study, advisor and examining committee; business responsibility to the

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community; mentor/mentee relationship; writing assessment.

**600 (3) Global and Ethical Perspectives in Business**

Organizational choices; ethics and moral reasoning principles; internationalization of American business; types of international involvement; cultural dimension and business; ethics in international business.

**601 (3) Fundamentals of Accounting**

Measuring business income; the accounting cycle; current and non current assets and liabilities, financial reporting for equities; the income statement; cash flows; international dimensions; ethical considerations.

**602 (4) Basic Business Functions**

This course examines the analysis of the marketing environment; consumer and organizational buying behavior; market segmentation; product development strategies; promotional strategies; and marketing channels.

**603 (3) Information Management**

This course provides a brief overview a micro and mainframe computer fundamentals such as hardware, software, databases, spreadsheets, and telecommunications. Techniques of using and analyzing managerial support and expert systems are studied in detail. This course also demonstrates how to manage information systems as a resource.

**604 (3) Operations Management**

This course deals with productivity in US, global competition, cost and quality challenges, strategic role of operations management, selection of process, technology and facilities, operations planning and control, and quality related issues.

**605 (3) Managerial Economics**

To develop and integrate principles and ideas from economics and business and to apply them to management-making decisions and policy formulation within the firm.

Pre: ECON 202 or ECON 355

**606 (3) Applied Macroeconomics**

Application of macroeconomics models to analyze current consumer investment and foreign trade behavior. Emphasis on the effects of government policy upon interest rates, taxes, foreign trade, the distribution of income and wealth, and the impact of a changing population.

Pre: ECON 201 or ECON 356

**611 (3) Accounting for Planning and Control**

Traditional and contemporary research costing; cost concepts and behavior; strategic cost management; cost allocation; cost estimation and cost-volume-profit analysis; incremental analysis; operational budgeting; responsibility accounting; profitability analysis; performance evaluation; transfer pricing, ethics.

Pre: MBA 601

**620 (3) Managerial Communication**

Orientation to business writing; problem analysis and research; structure of report; writing methods; writing reports: formal, informal, long, and short; mechanics of report construction; oral reporting including report presentation; organizational communications.

**622 (3) Statistical Analysis for Business and Research**

A comprehensive course in research design in business and in the application of statistical methods in business decision making. Research process and design, hypothesis testing and inference for quantitative and qualitative variables: data files handling and data analysis will be integrated and emphasized throughout the course.

**631 (3) Financial Management**

Analysis of financial statements; valuation models for corporate earnings; stocks and bonds; determination of risk factors to discount cash flows; capital structure; working capital management; option pricing models; international markets; finance cases.

Pre: FINA 362 or MBA 602

**650 (3) Marketing Analysis**

Marketing's role within organizations; buyer behavior; marketing research and forecasting; marketing information systems and decision processes; industry competitor analysis; marketing strategy preparation.

Pre: MRKT 310 or MBA 602

**651 (3) Human Behavior in Organization**

Concepts, theories, tools for diagnosing, and empirical research are studied and applied to human behavior in organizations. Topics covered include the impact that individual differences in personality, perceptions, and attitudes have on work motivation and performance; group processes and teamwork; power and leadership; work design, organizational culture, development and change.

Pre: MGMT 330 or MBA 602

**660 (3) Strategic Management**

This course examines the concept of strategy and strategic management. Topics include strategic formulation and implementation; industry and competitive analysis; situation analysis; organizational restructuring and transformation; teamwork concepts; individual and team casework and simulation work; class discussion and presentations.

Pre: MBA 611, 631, 650

**670 (1) Alternate Plan/Thesis Proposal Seminar**

Discussion of proposals/final report of research or individual

**ACCOUNTING AND BUSINESS LAW**

**ACCOUNTING**

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**500 (3) Financial Accounting IV**

A study of accounting principles and concepts for mergers, acquisitions, consolidated statements, foreign currency translation, and partnerships.  
Pre: ACCT 301

**510 (3) Business Income Tax**

The course examines the principles and procedures relating to the determination and computation of federal income taxes for various business entities including sole proprietorships, C corporations, S corporations, partnerships and tax-exempt entities. The course also covers tax research procedures.  
Pre: ACCT 160

**511 (3) Individual Income Tax**

The course examines the principles and procedures relating to the determination and computation of federal income taxes for an individual. Federal estate tax, gift tax, and income taxation of estates and trusts are also examined. The course does not require any accounting or business background.

**520 (3) Auditing**

This course provides a basic introduction to financial statement (external) auditing, internal auditing, and governmental auditing. Topics include an overview of the external audit process, current audit issues, auditing standards, ethical standards, auditors' legal liability, external audit reports, other common reports prepared by auditors, and operational auditing.  
Pre: ACCT 320

**521 (3) External Auditing**

This course is designed for student planning to take the CPA exam and/or pursue an auditing career in public accounting. Topics include statistical sampling methods, compliance testing, and detailed substantive audit procedures for all transaction cycles.  
Pre: ACCT 420

**522 (3) Internal Auditing**

This course is primarily for students interested in careers in internal audit, management accounting, or governmental accounting. Topics include internal control structure reviews, operational audits addressing effectiveness and efficiency of business operations, internal audit reports, human relations issues in internal auditing, sampling, statistical methods, computer system audits, and fraud audits.  
Pre: ACCT 420

**570 (3) Advanced Topics**

A study of accounting principles and concepts for governmental and not-for-profit organizations. It also includes an introduction to the Securities and Exchange Commission and a study of the Financial Accounting Standards Board's official pronouncements.  
Pre: ACCT 301

**677 (1-4) Individual Study in Accounting****690 (2) Seminar in Accounting****694 (1-2) Alternate Plan Paper****699 (3-6) Thesis****BUSINESS LAW****552 (3) Employment and Labor Law**

Rights and duties of employer and employee including the right to organize and bargain collectively. Federal employment discrimination laws, harassment and the duty to investigate, employee benefit laws, employee safety and worker compensation. E-mail privacy, drug testing, employer surveillance, ESOPS and emerging employment issues.  
Pre: BLAW 200

**553 (3) The International Legal Environment of Business**

Legal aspects of United States global trade policies, regulation of imports, contracting in the global marketplace, international marketing concerns, structure of various international organizations and treaties. Legal aspects of international licensing and technology transfers risks of nationalization and expropriation, international dispute resolution, comity, the Act of State, and sovereign immunity doctrines.  
Pre: BLAW 200

**574 (3) Environmental Regulation and Land Use**

Legal aspects of land use planning, drainage, surface water rights and boundaries, mining and land reclamation, clean air, clean water, waste disposal, noise control and environmental permit processes. Discussion of legal aspects of Historic Landmark Preservation, National Environmental Policy, CERCLA, the Superfund, liability for environmental contamination and emerging environmental issues.  
Pre: BLAW 200

**576 (3) Construction and Design Law**

Legal responsibilities of architects, engineers and contractors in dealing with each other, the project's owner, sureties and subcontractors. Special emphasis on performance problems, forms of business association, legal relationships with independent contractors, the AIA contract documents, mechanics liens, AAA Construction Arbitration Rules, dispute avoidance, claims management and collection strategies.  
Pre: BLAW 200

**577 (3) Negotiation and Conflict Resolution**

Negotiation theory and techniques, mediation theory and techniques, use of neutrals, limits of confidentiality and ethical duties. Rule 114 and laws governing arbitration and management of the arbitration process. Extensive use of cases and role play.  
Pre: BLAW 200

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### **583 (1-3) Special Topics**

Seminar topics may include legal aspects of entrepreneurship, mergers and acquisitions, legal rights in computer software, investigating sexual harassment claims, copyright on the internet, immigration law, steps to become an IPO, privacy rights on computer networks, case studies in deregulation, legal aspects of leveraged buyouts, corporate takeover and ESOP's, complying with NAFTA.

### **591 (1-3) Independent Study**

### **677 (1-4) Individual Study**

### **694 (1-2) Alternate Plan Paper**

### **698 (1-4) Internship**

### **699 (3-6) Thesis**

## **FINANCE, INSURANCE AND REAL ESTATE**

### **559 (3) Personal Financial Planning**

Fundamental concepts of personal financial management: insurance, budgeting, credit, savings, investments, retirement and estate planning, and consumer debt managements.

### **560 (3) Investments**

Formulation of investment policy of individuals and institutions, factors influencing the values of securities, and techniques of portfolio selection and management.

Pre: FINA 362

### **561 (3) Short-Term Financial Management**

This course describes the nature and types of credit, instrument and agencies. It deals with the management and analysis of consumer and commercial credit and control.

Pre: FINA 362

### **562 (3) Strategic Financial Management**

Applications of financial principles and analytical tools through the use of case studies and problems from local businesses.

Pre: FINA 362

### **563 (3) Security Analysis**

Tools and techniques to aid in individual and institutional portfolio management.

Pre: FINA 362 and FINA 460

### **564 (3) Financial Institutions and Markets**

Introduction to money and capital markets, instruments and institutions. Consideration of the management problems of financial institutions.

Pre: FINA 362

### **566 (3) Employee Benefit Planning**

Fundamental concepts of employee benefits in relation to pertinent legislation, modern management techniques, and financial constraints that affect the

formulation and implementation of a benefit plan.

Pre: FINA 362

### **567 (3) Insurance and Risk Management**

Principles and practices of risk management in the recognition and treatment of exposure to potential financial loss and with primary emphasis on property and liability insurance for individuals and families.

### **568 (3) Commercial Property/Liability Insurance**

Principles and practices of risk management in the recognition and treatment of exposure to potential financial loss. With primary emphasis on property and liability insurance for business firms.

Pre: FINA 467

### **569 (3) International Business Finance**

Financing investments and working capital management problems in multi-national environments.

Pre: FINA 362

### **570 (3) Life and Health Insurance**

Nature and uses of various economic security devices in protecting and/or replacing the earning power of the human life at the personal family and business levels.

### **576 (3) Real Estate Appraisal**

Principles and techniques of real estate valuation. The market, cost and income methods for the basic structure of the course. A professional appraisal report is required.

### **577 (3) Real Estate**

Fundamental principles: valuation, brokerage, financing, law, property management, land descriptions and basic investment.

Pre: FINA 362

### **578 (3) Real Estate Investment**

Property productivity analysis utilizing discount cash flow methodology, urban growth and taxation factors, and economic base analysis.

Pre: FINA 362

### **479 (3) Executive Lectures**

Guest lecturers and discussions with students by visiting senior executives of major companies coordinated by faculty. The course will include analysis of several individual companies. May be repeated.

### **580 (3) Options and Futures**

Trading practices and procedures utilizing these contracts in hedging and risk management policies for business.

### **582 (3) Commercial Bank Management**

Fundamental concepts of commercial bank management: banking trends and performance evaluations. Managing the balance sheet and evaluating loan requests.

### **591 (1-4) In-Service**

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**677 (1-4) Individual Study in Business Administration**

**694 (1-2) Alternate Plan Paper**

**695 (3) Seminar in Finance**

This course is provided on demand to interested graduate students who want to pursue further study in investigating the empirical and theoretical issues in the financial literature.

**699 (3-6) Thesis in Business Administration**

**MANAGEMENT**

**540 (3) Human Resource Management**

This course examines management of human resources in organizations. Topics include analyzing jobs and writing job descriptions; recruiting and hiring of applicants; complying with employment law; managing promotions, quits, and layoffs; employee training and development; evaluating job performance; determining compensation; and managing human resources in a unionized environment.

**541 (3) Staffing**

Students learn how to hire the best talent available using sound professional methods. Students design and present legally defensible recruiting and screening techniques for jobs they have analyzed.

**542 (3) Compensation Management**

The focus of this course is operating an effective, efficient, legal and responsible system for compensating one's employees. Includes the workings of labor markets, analyzing jobs, finding the market value for jobs, designing a pay structure, appraising performance, setting individual pay, determining benefits, occupations requiring special pay programs.

**543 (3) New Enterprise Management**

The course focuses on providing the knowledge and experience regarding the important aspects of new business ownership and management and covers the distinctive issues associated with start-ups and acquisitions to help entrepreneurs, managers, and those preparing for such roles to understand better the similarities and differences between new ventures and established firms.

**544 (3) Organization Design**

This course provides an understanding of the processes that cause organizations to be structured in various forms. The impact on size, technology, strategy, culture, and environmental conditions on structure are examined. The internal processes of power, conflict, culture, and organizational transformation are also emphasized.

**545 (3) Training and Development**

Students design and deliver training by assessing client needs, defining learning outcomes, choosing effective methods, training and evaluating results.

**547 (3) Management: Special Topics**

Special topics as requested by students.

**548 (3) Operations Planning and Control**

This course covers the needs of managers in profit or non-profit organizations who are engaged in planning and control functions. The course also focuses on the use and application of emerging technologies in a global, competitive environment.

**549 (3) Quality Management**

This course covers essential topics in modern quality management within manufacturing and service organizations from a managerial perspective, including quality planning, culture, customer focus, leadership, vendor relations, the use of statistical quality control tools and software as well as behavioral issues in the improvement of process and product/service quality.

**551 (3) Advanced Topics in POM**

This course covers recent developments and trends in operations management. The emphasis is on such issues as JIT, GT, FMS, CIM, Concurrent Engineering, DFM, and Optimized Technology. Case studies and industrial projects will be used to illustrate the implementation aspects of the subjects covered. POM software applications are also emphasized.

**552 (3) Operations Strategy**

Capstone course covering strategic issues in Operations Management, and their practical consequences for policy making. The emphasis is one (a) understanding how manufacturing interacts with other business functions, e.g. marketing, accounting, and finance, and (b) determining how the manufacturing function can contribute to the success of the firm.

**559 (3) Management Information Systems**

This course is designed to prepare students to design and develop personal computer based information systems for management control and decision making using end-user software including spreadsheets and data base management systems. Students will design and develop several information systems as group projects.

**580 (3) Human Behavior in Organizations**

Concepts, theories, and empirical research on organizational behavior are studied. Models and tools for diagnosing situations, individual behavior, group behavior, intergroup conflicts, supervisory problems and organizational change are analyzed.

**582 (3) Business, Society, and Ethics**

This course examines business organizations as one part of a complex socioeconomic system. It analyzes the ways in which businesses and societies interact with each other. It examines how managers can more effectively deal with issues that arise in society that may affect the organization. Business ethics is one thread that runs throughout the course.

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### **585 (3) Introduction to Management Science**

This course introduces a scientific approach to modeling and solving managerial decision problems. It includes such topics as linear and integer programming, network models, waiting-line models, simulation analysis, and decision theory.

### **600 (3) Techniques of Research**

This course explores the research process as an aid to making decisions and examines the role of research in decision-making, problem identification and formulation, assessment of the value of research, research proposals, literature reviews, research designs, sampling, measurement, scaling, questionnaires, data collection, data preparation, and the purposes of major data analysis methods.

### **607 (3) Statistical Analysis for Business**

Advanced concepts, data analysis, with emphasis on Chi square, analyses of variance and multiple correlation and regression.

### **641 (3) Total Quality Management**

Concepts of TQM including employee involvement, leadership, competition, internal time, cost and workplace.

### **677 (1-4) Individual Study in Business Administration**

### **685 (3) Introduction to Operations Research**

Quantitative methods of operations research/management sciences used for managerial decision making are explored. Topics covered include: resource allocation problems (linear programming, integer programming), network flow problems (PERT/CPM), and queuing models.

### **691 (1-3) In-Service**

### **693 (3) Management of Human Resources**

This course examines managing the human resources of an organization. It covers assigning the work to be done to jobs; recruiting, hiring and training employees; managing promotions, transfers, layoffs, and terminations; evaluating employee performance; and determining employee compensation. Attention is given to managing a diverse work force in a global marketplace.

### **694 (1-2) Alternate Plan Paper**

### **696 (3) Seminar: Management**

### **698 (1-6) Internship**

### **699 (3-6) Thesis**

## **MARKETING AND INTERNATIONAL BUSINESS**

### **MARKETING**

### **510 (3) Principles of Marketing Management**

An introductory course for graduate students without undergraduate business degrees: basic marketing

concepts and analysis.

### **513 (3) Industrial Marketing**

A broad examination of the techniques employed in business-to business marketing. Topics include organizational buying, buyer-seller relationships and industrial marketing mix development.

Pre: MRKT 310

### **515 (3) Retailing Management**

The study of marketing at the retail level, including the organization, operations, methods, policies, and problems of retail establishments in satisfying consumers.

Pre: MRKT 310, 316

### **520 (3) Sales Management**

This course involves studying the role of the general sales manager, the functions of sales management within overall marketing strategy, and the development of analytical decision skills necessary to plan, manage, and control the sales force.

Pre: MRKT 310, 412

### **528 (3) International Marketing**

This course takes a managerial approach to analyzing marketing decision making in multinational market situations.

Pre: MRKT 310 and IBUS 380

### **541 (3) Consulting for Small Business**

Student teams assist businesses with problems by conferring with clients, conducting analyses and recommending solutions. Problems may encompass accounting, finance, personnel procedures, production or marketing.

Pre: Permission of instructor

### **591 (1-4) In-Service**

Topics will vary across various hands-on practical experience.

Pre: Instructor's permission

### **677 (1-4) Individual Study in Business Administration**

Pre: Consent of Instructor

### **694 (1-2) Alternate Plan Paper**

Independent research related to topic proposal for alternate plan paper.

Pre: Consent of Instructor

### **697 (3) Seminar: Marketing**

Pre: Consent of Instructor

### **698 (1-6) Internship**

Pre: Consent of Instructor

### **699 (3-6) Thesis**

Pre: Consent of Instructor

### **INTERNATIONAL BUSINESS**

### **519 (3) International Business Seminar**

Topics on current developments in international trade and legislation.

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Pre: IBUS 380

**528 (3) International Marketing**

Managerial approach to marketing decision making in multicultural market situations.

Pre: MRKT 310, IBUS 380

**548 (3) International Business Management**

Comparison of the major management systems within their differing cultural environments. Analysis of differing value systems, group behaviors, conflicts and supervisory problems.

Pre: MGMT 330 and IBUS 380

**549 (3) International Business Policy**

A capstone course for students majoring in international business designed to analyze and integrate the various international business management decisions.

Pre: IBUS 380, Business Foundation Courses

**569 (3) International Business Finance**

Financing investments and working capital management problems in multinational environments.

Pre: FIRE 362, IBUS 380.

**575 (3) International Business Law**

Comparison of the two major systems of law: code and common, and their effects on commercial transaction between firms in different countries.

**585 (3) Export Administration**

Provides knowledge and documentary skills in managing and implementing the export operations of firms engaged in international trade.

Pre: IBUS 380

**586 (3) Consulting for Export Business**

Student teams under faculty supervision assist area firms interested in developing or expanding international business.

Pre: Senior Standing/Instructor Approval

**591 (1-4) In-Service**

Topics will vary across various hands-on practical experiences.

Pre: Instructor's Approval

**677 (1-4) Individual Study in Business Administration**

Pre: Consent of Instructor

**692 (3) Multinational Business Management**

Organization, finance, production, personnel, executive development and nationalistic conflict problems of multinational business environment.

Pre: Consent of Instructor

**694 (1-2) Alternate Plan Paper**

Pre: Consent of Instructor

**696 (1-3) Seminar in Marketing**

Pre: Consent of Instructor

**698 (1-6) Internship**

Pre: Consent of Instructor

**699 (3-6) Thesis in Business Administration**

Pre: Consent of Instructor

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**CHEMISTRY MA**

**CHEMISTRY MS**

*College of Science, Engineering & Technology  
Chemistry and Geology Department  
N242 Trafton • 507-389-1963  
<http://cset.mnsu.edu/chemgeol/>*

Chair: Jeffrey Pribyl, Ph.D.

Graduate Coordinator: Michael Lusch, Ph.D.

Brian Groh, Ph.D., Bryce Hoppie, Ph.D., S. Dean Moosavi, Ph.D., Marie Pomije, Ph.D., James Rife, Ph.D., Theresa Salerno, Ph.D., John Thoemke, Ph.D.

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The Department of Chemistry and Geology programs that lead to Master of Arts and Master of Science degrees in chemistry. The MS is a professional degree leading to employment in industrial research or advancement to Ph.D. programs; the MA is designed to strengthen and broaden the academic and professional preparation of those students who qualify for teacher licensure.

The Graduate Program in the Chemistry Department offers students an opportunity to strengthen their academic education in the field of chemistry and to develop the necessary research skills for future careers.

Housed in Trafton Hall, the Chemistry and Geology Department offers an experienced faculty with diverse research interests and exceptional teaching skills. The instruments which are available to graduate students in the Chemistry Department include a 200 MHz Fourier Transform nuclear magnetic resonance spectrometer, gas chromatographs, high pressure liquid chromatograph, Fourier Transform infrared spectrometer, atomic absorption and ultraviolet-visible spectrophotometers, centrifuges, and a scintillation counter. The university's main frame computers, as well as microcomputers, are available to students in the department and at the MSU Academic Computer Center in the adjoining Wisconsin Building.

**Admission.** In addition to meeting the general requirements for admission to the College of Graduate Studies, students must meet the following admission requirements for the department. Information should be sent to the Graduate Coordinator.

1. Three letters of recommendation from individuals familiar with the applicant's academic background, training, and abilities.
2. A minimum GPA of 2.75/4.0 for the last two years of the baccalaureate degree.
3. A minimum GPA of 2.50/4.0 in undergraduate math and science courses or a minimum score of 600 on the Chemistry Graduate Record Exam.
4. A core of undergraduate chemistry courses must have