

## Descriptions — Social Work

### of Courses

- 874. Social Work Consultation**  
*Winter. 4 credits. Second-year social work graduate students; approval of school.*  
Consultation as a problem-solving process in social work. Emphasis on role relationships, types of consultation, and intervention models. Differentiation from client treatment, psychotherapy, supervision and collaboration. Integral practicum component.
- 875. Evaluation of Social Work Treatment**  
*Fall. 3(3-0) S W 475; STT 201 or STT 421. Majors or approval of school.*  
Utilization of experimental design strategies in evaluating the processes and consequences of social work treatment.
- 876. Survey Research on Social Problems**  
*Winter. 3(3-0) S W 475; STT 201 or STT 421. Majors or approval of school.*  
Use of survey research methods to develop knowledge and theory as related to selected social problems.
- 877. Qualitative Research Methods in Social Work**  
*Spring. 3(3-0) S W 475; STT 201 or STT 421. Majors or approval of school.*  
Use of participant observations and other qualitative research methods in social work settings for purposes of developing empirically grounded theory.
- 879A. Administration and Program Evaluation Practicum I**  
*Fall. 4(0-16) S W 837, S W 875 concurrently; approval of school.*  
Application and integration of concepts, principles and methods of administration and program evaluation.
- 879B. Administration and Program Evaluation Practicum II**  
*Winter. 4(0-16) S W 879A, S W 876 concurrently; approval of school.*  
Application and integration of concepts, principles and methods of administration and program evaluation.
- 879C. Administration and Program Evaluation Practicum III**  
*Spring. 4(0-16) S W 879B, S W 877 concurrently; approval of school.*  
Application and integration of concepts, principles and methods of administration and program evaluation.
- 881. Social Work in Special Settings**  
*Fall, Winter, Spring, Summer. 3(3-0) May reenroll for a maximum of 6 credits with approval of school. Majors or approval of school.*  
Social work concepts, methods and program development in selected settings such as school, medical, psychiatric, correctional, family, or child welfare. Significance of organizational arrangements for social work practice.
- 882. Seminars in Social Work**  
*Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 12 credits. Approval of school.*  
Seminars on selected issues, trends, programs or methods in social work.
- 890. Special Problems in Theory and Practice**  
*Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 18 credits. Majors or approval of school.*  
Individual or group study of special settings or of specific social work problems.

- 893. Social Gerontology**  
*Fall. 3(3-0) Approval of school.*  
Aging and years of later maturity, with respect to social and personal difficulties and opportunities. Aging process, retirement, living arrangements, social relationships, community resources, and implications for social welfare.
- 990. Independent Study in Social Work**  
*Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 12 credits. Approval of school.*  
Individual study of a theoretical or applied problem in social work.

## SOCIOLOGY SOC

### College of Human Medicine College of Social Science

- 150. The Individual in Modern Society (S)**  
*Fall, Spring. 4(4-0)*  
Recognition and description of social conditions which lead to individual human development. Exploration of ways in which society facilitates and fails to facilitate individual human development.
- 160. Structural Problems of American Society (S)**  
*Winter. 4(4-0)*  
Analysis of beliefs and values which underlie the definition of social problems and proposed solutions. Structural basis of problems such as those of workplace, life cycle, energy, and environment.
- 241. Introduction to Sociology**  
*Fall, Winter, Spring, Summer. 4(4-0) Sophomores.*  
Introduction to nature of sociological inquiry and to concepts and principles of sociology. Analysis focuses on institutional features of modern society and of structure and dynamics of social organization.
- 251. Social Psychology**  
*Fall, Winter, Spring, Summer. 5(5-0) SOC 241. Students may not receive credit in both SOC 251 and PSY 335.*  
Social psychology from a sociological perspective. Relation of individuals to their social environment with special reference to group process and interaction, social structure and personality, mass phenomena, and social attitudes.
- 310. Social Stratification**  
*Fall, Winter. 4(4-0) SOC 241.*  
Survey of literature on the formation and changes in social class systems in modern and traditional societies. Social mobility in class, status and political orders.
- 311. Development of Sociological Theory**  
*Winter, Spring. 4(4-0) SOC 310.*  
Significant theoretical contributions to the development of sociological theory, both European and American.
- 312. Research Methods in Sociology**  
*Fall, Spring. 5(4-2) STT 201 or PSY 215.*  
Elements of scientific logic; procedures and problem formation; development of concepts, hypotheses, theory; research design; sampling, measurement, data gathering; analysis, interpretation, and reporting research findings.
- 320. Criminology**  
*Fall, Winter, Spring, Summer. 4(4-0) SOC 241 or C J 110 or approval of department. Interdepartmental with the School of Criminal Justice.*  
Crime analyzed from sociological perspective: meaning of 'crime', crime statistics, and measurement, theories of crime causation, crime typologies, e.g., professional organized, violent, sex, white-collar crimes, juvenile delinquency.
- 321. Industrial Sociology**  
*Fall. 4(4-0) SOC 241.*  
Industrialization in Western and non-Western societies; social organization of work; internal dynamics of work plant as a social system; and labor-management relations in various cultural settings.
- 322. Political Sociology**  
*Fall, Winter. 4(4-0) SOC 241.*  
Political action in the United States in relation to theory and practice of democracy. Nature of social pressures, political group, politician and effect of local community situation on political activity will be considered.
- 323. Sociology of the Family**  
*Winter. 4(4-0) SOC 241.*  
Sociological analysis of the family, its development as a social institution, its relationship to society, and its contribution to personality.
- 329. Urban Sociology**  
*Fall, Winter, Spring. 4(4-0) SOC 241.*  
Urban theory and research techniques emphasizing the demography, ecology and social organization of American cities and sociological aspects of urban planning and redevelopment.
- 332. Behavior of Youth**  
*Winter, Spring. 4(4-0) SOC 241.*  
Sociological analysis of normal and deviant behavior of youth. Issues related to the existence of youth subcultures. Relation of social change to behavior of youth.
- 333. Racial and Ethnic Inequality**  
*Winter, Spring. 4(4-0) SOC 241.*  
Sociology of racial and ethnic problems in contemporary society with an emphasis on American society. Attention to specific ethnic and racial groups in terms of prejudice and discrimination with particular concern for the resolution of inequality.
- 353. Sociology of Sex and Gender**  
*Fall. 4(4-0) SOC 241.*  
Analysis of the organization of gender - divisions between women and men and sexual inequality - in production, reproduction, sexuality, and the socialization of children. Includes both institutional and social psychological perspectives.
- 400H. Honors Work**  
*Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 20 credits. Approval of department.*
- 401. Sociology of Education**  
*Winter. 4(4-0) SOC 241. Interdepartmental with the Department of Teacher Education.*  
School as a social institution, school-community relations, social control of education, and structure of school society.

**418. Critical Issues in Contemporary Africa**

Fall, Spring. 3(3-0) May reenroll for a maximum of 9 credits if different topics are taken. One course on African subject and approval of instructor. Interdepartmental with African Languages and the departments of Anthropology, Geography, History, and Political Science. Administered by the Department of History.

Four separate multidisciplinary topics will be offered at different times: The Horn of Africa, Southern Africa, Africa and the Americas, Social Impact Studies.

**420. Dynamics of Population**

Fall, Winter. 4(4-0) One 300 level sociology course.

General demographic theories, especially those concerning population growth. Population distribution and density, age, sex, and ethnic composition. Emphasis on fertility, mortality, and migration and their influences on population change.

**424. Sociology in Mental Health**

Spring. 4(4-0) SOC 251 or PSY 335.

Sociological theories of etiology of mental disorder; research on social epidemiology and ecology; impact of social structure; popular conceptions of mental health and deviancy; emerging ideologies of mental health disciplines.

**427. Social Movements and Ideologies**

Winter, Spring. 4(4-0) One 300 level sociology course.

The analysis of the collective response to situations of social tension and change that take the form of social movements and their accompanying ideologies. Both historical and contemporary cases will be examined.

**428. Contemporary Communities**

Fall, Spring. 4(4-0) One 300 level sociology course.

An examination of the contemporary community. Emphasis will be placed on associational and institutional organization in communities of varying complexity. Particular attention will be paid to social organizational theory as it applies to the problems of American community life.

**430. Sociology of Work**

Winter. 4(4-0) One 300 level sociology course.

Social significance of work. Forces changing contemporary occupational structure. Factors associated with typical career patterns of occupations and professions. Social organization of occupational groups with emphasis on their ideology and politics.

**434. Social Deviance and Control**

Spring. 4(4-0) SOC 320.

The relationship between social structure, social control and social deviance; a survey and criticism of present social science theories in light of empirical research and application of theories to selected problem areas.

**437. Rural Sociology**

Fall, Spring. 4(4-0) One 300 level sociology course.

Structure, function and change in rural areas of the United States. The major social systems, social class, demographic characteristics, commodity organizations and value orientations of rural people.

**438. Sociology of Developing Societies**

Spring. 4(4-0) One 300 level sociology course.

Sociological elements of modernization. Process of technological change and type of programs to induce change. Emergence and accommodation of institutions to change. The changing population, family, community and ideological structures.

**443. Personality and Social Structure**

Spring. 4(4-0) SOC 251 or PSY 335; one 300 level sociology course.

Effects of social structural variables upon personality development, adult socialization, role behavior, self image, and self evaluation.

**IDC. Refugees, Displaced Persons, Exiles**

For course description, see *Interdisciplinary Courses*.

**448. Small Group Interaction**

Winter. 4(4-0) SOC 251 or PSY 335; one 300 level sociology course.

Properties of social interaction in small groups. Relationship between group structure and social interaction.

**IDC. Issues in Refugee Assistance**

For course description, see *Interdisciplinary Courses*.

**471. Modern American Society**

Winter, Spring. 3(3-0) One 300 level sociology course.

Cultural patterns and social structures of contemporary American life. Relationship of these patterns and structures to individual and group adjustment.

**473. Culture and Personality**

Fall, Spring. 4(4-0) One 300 level anthropology or sociology course. Interdepartmental with the Department of Anthropology.

Human nature in evolutionary and cross-cultural perspective. Special attention to relating theories of anthropology and psychology to methods of studying personality in non-Western societies.

**475. Individual Research Projects**

Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits. Nine credits in sociology and approval of department.

**477. Complex Organizations**

Spring. 4(4-0) One 300 level sociology course.

Bureaucracies and complex formal organizations in various institutional settings and the relationship among organizations in the community. Informal structures, internal conflict, integrative mechanisms, and the dilemmas of professional and administrative demands will be emphasized.

**485. Wealth and Poverty**

Winter. 4(4-0) SOC 310.

Distribution of income and wealth in contemporary industrial societies; relevance of wealth to prestige and political orders of societies; social consequences of public and private programs.

**490. Special Topics**

Fall, Winter, Spring, Summer. 4(4-0) May reenroll for a maximum of 12 credits if different topic is offered. SOC 241 or approval of department.

Experimental courses and courses taught by visiting scholars.

**499. Senior Seminar**

Spring. 3 to 5 credits. Senior majors or approval of department.

Selected issues in sociological research and theory.

**803B. Comparative Foundations of Education: Education in Industrialized Societies**

(ED 804E., EAC 803B.) Fall. 3(3-0) Approval of department. Interdepartmental with and administered by the Department of Teacher Education.

Comparative study of the policies, practices and social context of educational systems in major industrialized countries, such as Canada, England, France, Germany, Japan, Soviet Union, Sweden.

**810. General Social Organization**

Fall. 4 credits. Majors or approval of department.

Research and literature on the structure and function of social organizations ranging from societies to small groups.

**811. Research Problems and Literature in Social Psychology**

Fall. 4(4-0) Majors or approval of department.

Central points of view and concepts of contemporary social psychology with emphasis upon symbolic interaction. Collective behavior, small groups, attitudes and behavior, and culture and personality.

**812. Theory of Sociological Inquiry**

Winter. 4(4-0) Majors or approval of department.

Critical review of some of the procedures followed by sociologists and social psychologists in their attempts to achieve reliable knowledge.

**813. Proseminar in Research Methods**

Spring. 5(5-0) STT 421.

Examination and comparison of documentary, field, experimental, and survey research methods in social science. Emphasis on techniques of data gathering and analysis, and problems of reliability, validity, sampling and measurement.

**820. Sociology of Migration**

Winter. 4(4-0) SOC 420 or approval of department.

Theory and research in studying the causes, patterns, and consequences of human migration. Emphasis on sociological, social psychological and demographic perspectives.

**823. Organizational Behavior in Labor and Industrial Relations**

Fall, Winter, Summer. 4(4-0) Approval of department. Interdepartmental with and administered by the School of Labor and Industrial Relations.

Analysis of why organizations, individuals and groups in unions, management and government act as they do in industrial relations situations with emphasis on sociological, psychological and cultural factors.

**827. Social Movements and Ideologies**

Spring. 3(3-0) Approval of department.

Organizational structure and supporting belief systems of groups and collectivities which desire major institutional changes in society.

## Descriptions — Sociology

### of

### Courses

#### 831. *Documentary and Bibliographic Research Methods.*

Fall. 4(4-0) Approval of department.

Systematic and detailed exploration of source materials relevant to documentary and bibliographic social science research. Emphasis on research strategy and techniques.

#### 837. *Special Topics in Rural Sociology*

Fall, Winter, Spring. 3 to 8 credits. Approval of department.

Special fields of rural sociology such as farmers' organizations, population, migration, adaptation of practices, changing ideologies, political behavior, stratification, and attitudes.

#### 839. *African Research*

(IDC 838.) Fall, Winter, Spring. 2 to 4 credits. May reenroll for a maximum of 8 credits. Graduate standing or approval of instructor. Interdepartmental with African Languages and the departments of Anthropology, Educational Administration, Geography, History, and Political Science. Administered by the Department of Anthropology.

African-related archival and field research topics and methodologies viewed from perspective of relevant social science and humanistic disciplines associated with the African Studies Center.

#### 842. *Seminar in Conflict and Change*

Winter. 3(3-0) Approval of department.

Overview of the substantive and research literature in Conflict and Change; and explores possibilities for student research and involvement in the area.

#### 845. *Classical Sociological Theory*

Fall, Winter. 5(5-0) Approval of department.

Nineteenth and early twentieth century sociological theory from Marx to Pareto in socio-historical context. The development of contemporary sociology theory and research from the classics.

#### 846. *Sociology of Knowledge*

Winter of even-numbered years. 3(3-0) Approval of department.

A selective review of the classical issues posed by the sociology of knowledge, with emphasis upon the implications these have for sociological theory.

#### 853. *Social Attitudes*

Spring. 4(4-0) Approval of department.

Origin, development, classification, and measurement. Relationship between attitudes and behavior. Students will conduct field research.

#### 860. *Topics in Multivariate Analysis*

Winter. 5(5-0) STT 421, STT 422.

Selected topics in the areas of path analysis, factor analysis and other multivariate techniques.

#### 864. *Population Studies: Research Problems and Literature: Seminar*

Winter. 3 to 4 credits. May reenroll for a maximum of 16 credits. Approval of department.

Theoretical and substantive literature relating to demographic change, and research problems of special interest.

#### 866. *Selected Research and Literature In Social Institutions*

Fall, Winter, Spring. 4(4-0) May reenroll for a maximum of 16 credits.

A review and analysis of the significant literature concerning major problems in the institutional structure of modern society. A. Economic and Industrial; B. Political; C. Religious; D. Family.

#### 868. *Social Organization and Administration*

Fall, Spring. 3(3-0) Approval of department.

General principles of inter- and intra-organizational change in the administrative process.

#### 870. *Seminar in Teaching Sociology*

Spring, Summer. 4(4-0) Approval of department.

Theory and Practice in College Teaching of Sociology. Role related pressures on sociology teachers and methods of facilitating significant learning. Course organization, alternative instructional procedures, and evaluation techniques.

#### 872. *Seminar in Special Subject Fields*

Fall, Winter, Spring. 3 to 8 credits. May reenroll for a maximum of 40 credits. Approval of department.

Special fields of study will include any area of sociology and social psychology selected.

#### 875. *Individual Research Projects*

Fall, Winter, Spring, Summer. 1 to 8 credits. May reenroll for a maximum of 24 credits. Approval of department.

#### 877. *Seminar in Complex Organizations*

Winter. 4(4-0) SOC 321 or SOC 477 or approval of department.

Major theoretical and methodological problems in studying complex organizations. Using a comparative approach, special emphasis will be given to the design and execution of empirical research.

#### 880. *Individual Readings*

Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 40 credits. Approval of department.

#### 884. *Seminar in Social Stratification*

Spring. 3(3-0) Approval of department.

Theory and research in societal systems of stratification. The articulation of stratification orders to institutional structures. Research design in stratification studies.

#### 885. *Dependency, Development and International Inequality*

Winter. 4(4-0) Approval of department.

Focus on conceptual formulations concerning uneven development and problems of social and economic change within structures of dependency; uses of research-based knowledge for change and development.

#### 886. *Sexual Inequality*

Winter. 3(3-0) Approval of instructor.

Theoretical and empirical perspectives on sexual inequality. The sexual division of labor; gender and family and economic institutions; sex stratification in relation to class and race; socialization; social change.

#### 899. *Master's Thesis Research*

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

#### 901. *Educational Sociology: Seminar*

Fall, Winter. 3 or 4 credits. Approval of department. Interdepartmental with the Department of Teacher Education.

#### 903. *Urbanization in Comparative Perspective*

Fall. 3(3-0)

Comparative research and theory on urbanization in the world system. Relationship of urbanization to development.

Approved through Summer 1986.

#### 930. *Sociology of Work*

Spring. 4(4-0) SOC 430, SOC 310, SOC 884 or approval of instructor.

Theory and research problems in occupational structure, work settings, functions and meanings of work, occupational mobility and career patterns.

#### 941. *Human Ecology*

Winter of odd-numbered years. 4(4-0) Approval of department.

The analysis of population aggregates in terms of their place in a total ecosystem, defined as the structure of interdependencies involving population, environment, technology, and patterns of organization.

#### 942. *Urban Theory*

Winter. 4(4-0) Approval of department.

Examination and critique of competing theories of urban structure and process: theories of evolution of human settlement, classic location theories, human ecology, communication and system theories.

#### 952. *Techniques of Population Analysis*

Spring. 4(4-0) SOC 420; STT 422 or approval of department.

Techniques for the analysis of population size and composition, mortality, fertility, migration, population estimates and forecasts, population and labor force distribution, and selected techniques of ecological analysis.

#### 954. *Social Survey Methods*

Spring. 4(4-0) SOC 860.

The design and analysis of theoretically oriented survey research. Sampling, questionnaire construction, interviewing, and data processing.

#### 955. *Field Research Methods*

Spring. 4 credits. SOC 312; approval of department.

An overview of the design and execution of social research.

#### 964. *Seminar in Small Group Research*

Fall. 4(4-0) Thirty graduate credits including SOC 811, or approval of department.

The experimental and theoretical investigation of organizational processes in small groups.

#### 966. *Social Structure and the Individual*

Winter. 4(4-0) SOC 811 or approval of department.

Contemporary theory and research on the influence of social structure on the individual and the interaction of the individual and social structure as determinants of behavior.

- 967. Introduction to Formal Theory in Sociology**  
*Spring. 4(4-0) STT 422, a course in research methods.*

Analysis of the structure of formal theory in sociology and of the problems of interpretation and verification of deterministic and probabilistic theories. Examination of specific practices of theory construction.

- 968. Symbolic Interactionism: Theory and Research**  
*Spring. 4(4-0) SOC 811; social psychology concentration.*

Theoretical and research problems within the framework of symbolic interaction. The socialization process and the development, maintenance, and enhancement of the self. Critique of the literature and proposals for new research directions.

- 970. Theories of Conflict and Change**  
*Fall. 3(3-0) Approval of department.*

Major theoretical European and American contributions to the study of conflict and change.

- 971. Race, Politics, and Social Structure**  
*Winter. 3(3-0) Approval of department.*

Racism, including the social mechanisms by which it is created, maintained, and lessened, and the variant forms of political action related to racism and social structure.

- 973. Values, Crises and Utopias in a Post-Modern Society**  
*Fall. 3(3-0) Approval of department.*

Macro-sociological approach to study of social problems and stresses; planned change; and conscious improvement of modern societies.

- 976. Theoretical Perspectives in Sociology**  
*Winter. 4 credits. SOC 845 or SOC 846.*

Comparison and analyses of concepts, conceptual schemes and theories of outstanding social theorists in relation to modern research.

- 977. Seminar in Selected Theoretical Issues**  
*Spring of odd-numbered years. 4(4-0) May reenroll for a maximum of 8 credits. SOC 845.*

Issue approach to social theory. Selected themes relate to substantive problems in theory, theory construction or the work of a historical or contemporary thinker.

- 978. Comparative Rural Social Organization**  
*Spring. 4 credits.*

Structure and function of social organizations ranging from societies to small groups. The comparative approach will be used in studying phenomena involved in the transitions from agrarian to industrial societies.

- 981. Comparative Sociology**  
*Fall. 3 or 4 credits. Doctoral student in sociology; completion of core courses.*

Macro-sociological studies of societies. The relationship of the whole to the varied parts of societies, the connection between societies, and the patterns of change in different societies. The development of research with respect to the cross-cultural study of social structures, social institutions, and social systems.

- 982. Comparative Social Psychology**  
*Winter. 3 or 4 credits. SOC 981.*

Social psychological research problems involving a comparative methodology. Social psychological functions of education, mobility, mass media use, etc. Comparative study of the social psychology of modernization.

- 983. Comparative Research Methods**  
*Spring. 3 or 4 credits. SOC 981.*

Sampling problems, data collection strategies, problems of translation and concept equivalence. Management, analysis and interpretation of cross-cultural data.

- 991. Seminar in Work and Organizations**  
*Winter. 4(4-0) May reenroll for a maximum of 8 credits. Thirty graduate credits and approval of instructor.*

Selected topics in the sociology of work, occupations, and complex organizations.

- 999. Doctoral Dissertation Research**  
*Fall, Winter, Spring, Summer. Variable credit. Approval of department.*

## SPANISH

See Romance and Classical Languages.

## STATISTICS AND PROBABILITY STT

### College of Natural Science

Introductory courses are further classified as follows:

315, 316—sequence for undergraduate students of Business Administration.

201—survey course.

421, 422, 423—minimal sequence for students planning to use statistical methods in their research.

441, 442, 443—minimal sequence in theory of statistics. Qualified students should take the 861, 862, 863 sequence instead.

861, 862, 863—sequence for students preparing to do advanced work in statistics.

- 201. Statistical Methods**  
*Fall, Winter, Spring, Summer. 4(4-0) MTH 108 or MTH 111. Primarily for students in psychology, sociology, anthropology, political science, economics, agriculture, and forestry. Credit may not be earned in more than one of the following: STT 201, STT 315, STT 421.*

Descriptive statistics, elementary probability and combinatorics. The binomial distribution. Random variables, their expectations and variances. Central Limit Theorem, estimation and inference. Simple tests based on the binomial, normal, t, chi-square and F distributions.

- 290. Special Topics in Statistics and Probability**  
*Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 6 credits. MTH 108 or approval of department.*

- 315. Introduction to Probability**  
*Fall, Winter, Spring, Summer. 4(5-0) MTH 111. Credit may not be earned in more than one of the following: STT 201, STT 315, STT 421.*

Set and algebra of sets. Chance experiments, outcomes and events. Probabilities of events. Conditional probability, independent trials, Bayes' theorem. Introduction to statistical inference relevant to business decision problems.

- 316. Fundamentals of Statistical Inference**  
*Fall, Winter, Spring, Summer. 4(5-0) STT 315. Primarily for students in the College of Business. Interdepartmental with the Department of Marketing and Transportation Administration.*

Description of sample data, applications of probability theory, sampling, estimation, tests of hypotheses.

- 317. Quantitative Business Research Methods**  
*Fall, Winter, Spring, Summer. 4(5-0) STT 315. Interdepartmental with and administered by the Department of Marketing and Transportation Administration.*

Application of statistical techniques to business decision making. Topics covered include applications of linear regression and correlation, analysis of variance, selected nonparametric tests, time series, and index numbers.

- 351. Introduction to Statistics**  
*Spring. 4(4-0) MTH 214.*

Probability models, discrete random variables, the binomial, hyper-geometric and Poisson distributions, statistical inference based on the binomial distribution, continuous random variables, test of hypothesis and confidence intervals based on the normal distribution.

- 421. Statistics I**  
*Fall, Winter, Spring, Summer. 4(4-0) MTH 108. Credit may not be earned in more than one of the following: STT 201, STT 315, STT 421. This course and STT 422, STT 423 form a one year sequence in statistics for those without a calculus background; STT 421 provides an introduction to a few of the main ideas of probability and statistics. The course sequences STT 441-2-3 and STT 861-2-3 form one year sequences in statistics for those with a calculus background. Those expecting to use statistics in their graduate research should complete one of the full year sequences.*

Descriptive statistics, elementary probability and combinatorics. The binomial distribution. Random variables, their expectations and variances. The Central Limit theorem, Estimation and inference. Simple tests based on the binomial, normal, t, chi-square and F distributions.

- 422. Statistics II**  
*Fall, Winter, Spring, Summer. 3(3-0) STT 421.*

Nonparametric models, contingency table analysis, sample survey methods, simple linear regression, one-way analysis of variance.

- 423. Statistics III**  
*Fall, Winter, Spring, Summer. 3(3-0) STT 422.*

Multiple regression. Analysis of variance for various experimental designs, including randomized block, two and three way factorial, nested and Latin square designs.