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**566 (2) Biochemical Techniques II**

Students work in teams to solve biochemical research problems by conducting and analyzing experiments which they design. S

Pre: CHEM 460/560 and 465/565

**574 (2) Chromatography**

Theory and applications of thin layer, paper, liquid, and gas chromatography. F-E

Pre: CHEM 320 previously or concurrently is recommended

**575 (4) Instrumental Analysis**

Theory and practice of modern instrumental methods including basic electronics. Special emphasis placed on sampling methods, analog and digital electronics, electrochemistry, spectrophotometric and chromatographic methods, surface and thin-film analysis and computer acquisition and data processing techniques. S

Pre: CHEM 305; PHYS 212 or 222 previously or concurrently

**577 (1-3) Special Topics in Instrumental Analytical Chemistry**

Detailed study and focused discussion of a specific analytical technique such as electrochemistry, X-ray analysis, etc. or an area of analysis such as metals, bioanalytical, etc. May be taken more than once for credit, if the topic is different. V

Pre: CHEM 305 (or equivalent)

**579 (4) Teaching Physical Science**

Methods and materials for teaching physical sciences in middle school through high school. Clinical experiences required for the course. S

Pre: Consent

**582 (1-3) Problems in Teaching Science**

Investigation of current issues and topics related to the teaching of science in K-12 grades. V

**585 (1-2) Seminar in Environmental Chemistry**

Study of current environmental problems or issues with emphasis on the relevant chemical principles and understanding necessary to monitor or alleviate the problems. V

Pre: CHEM 305 (or equivalent)

**590 (1-6) Workshop****597 (1-16) Internship****602 (1-6) Topics: Analytical Chemistry**

Recent advances in analytical chemistry or detailed study of advanced techniques or areas of analytical chemistry. This course may be taken more than once for credit if the topic is different. V

Pre: CHEM 305 (or equivalent)

**616 (1-6) Topics in Inorganic Chemistry**

Topics from inorganic chemistry which may include such fields as bioinorganic chemistry, organometallic

chemistry, solid state chemistry, and other topics of current interest. This course may be taken more than once for credit if the topic is different. V

Pre: CHEM 413/513 (or equivalent)

**621 (2-6) Topics: Organic Chemistry**

Topics may include the chemistry of heterocyclic compounds or natural products, control of stereochemistry, photochemistry, advanced NMR techniques, or others areas of current interest not covered in other courses. This course may be taken more than once for credit if the topic is different. V

Pre: CHEM 321 and 331 (or equivalent)

**642 (2-6) Topics: Physical Chemistry**

Advanced consideration of some fundamental area in physical chemistry with application to a topic of current interest to the instructor and students. The course will depend on reading and discussion of current primary literature. Possibilities include: quantum mechanics and molecular structure calculations, condensed phase structure, development of novel materials, etc. V

Pre: CHEM 442/542 (or equivalent)

**660 (2-6) Topics: Biochemistry**

Detailed study of the literature in one selected area of biochemistry. This course may be taken more than once for credit if the topic is different. V

Pre: CHEM 461/561 (or equivalent)

**677 (1-6) Individual Study****682 (2) Chemistry for the Elementary Teacher****685 (1-3) Laboratory Supervision and Maintenance****690 (1-6) Workshop****692 (1-6) Research****694 (1-2) Alternate Plan Paper****695 (1-2) Graduate Seminar**

Students will present a seminar on either a research proposal for their graduate research, or the results of their thesis research. S

**698 (1-8) Internship****699 (3-6) Thesis**

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**CLINICAL PSYCHOLOGY MA**

*College of Social and Behavioral Sciences  
Clinical Psychology Department  
23 Armstrong Hall • 507-389-2724*

Chair: Rosemary Krawczyk, Ph.D.

Graduate Coordinator: Michael Fatis, Ph.D.

Paul Brandon, Ph.D., Leslie Eckert, Ph.D., Nancy Fenrick, Ph.D., Phillip Goernert, Ph.D., Kenneth J. Good, Ph.D., Daniel Houlihan, Ph.D., Edison Perdomo, Ph.D., Barry J. Ries, Ph.D., Donald Royal,

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Ph.D., Dan Sachau, Ph.D., Seiji Takaku, Ph.D.

The Psychology Department offers programs of study leading to the MA degree in Clinical Psychology and Industrial/Organizational Psychology.

Application for graduate study in Clinical Psychology should be initiated by contacting the Department of Psychology as well as the College of Graduate Studies. Two separate applications are required. The Clinical Psychology Program application is available from the department and must be submitted to the clinical program to initiate the admission review process. All applicants should arrange to take the GRE and have scores forwarded to the College of Graduate Studies and to the Clinical Program Admission Committee.

**Financial Assistance.** In recent years, the Psychology Department has been able to award graduate assistantships to some students accepted into the program. Assistantships are awarded on the basis of standardized test scores and past performance as a graduate assistant.

**Program Description.** The Clinical Psychology Program is a full time, two year research oriented course of study which provides theoretical and applied training to students who wish to pursue doctoral study. Graduates typically pursue the doctorate in professional psychology.

**Admission.** In addition to completing the general admission requirements for the College of Graduate Studies, the following must be completed:

1. Completion of a core curriculum in psychology which includes courses in statistics, experimental psychology, personality, abnormal psychology, a laboratory course in conditioning, learning or behavior modification, a course in developmental psychology (child, adolescent or aging) and a course in history and systems of psychology. Students with undergraduate course deficiencies may be considered, however, they must complete deficiencies prior to enrolling in advanced coursework;
2. The GRE is required (see department for specific requirements); and
3. Three letters of recommendation, preferably from psychology professors.

## CLINICAL PSYCHOLOGY MA

(Thesis Plan - 50 cr)

### Required Core Courses (50 cr)

PSYC 610	Research Design & Statistics (4)
PSYC 613	Beh. Res. Meth (4)
PSYC 649	Behavior Theory and Philosophy (3)
PSYC 650	Schools of Psychotherapy (3)
PSYC 651	Adult Psychopathology & Therapy (4)

PSYC 654	Clinical Case Management (4)
PSYC 682	Child Psychopathology & Therapy (4)
PSYC 683	Beh. Assessment (4)
PSYC 689	Standards and Ethics (3)
PSYC 691	Clinical Practicum I (2)
PSYC 692	Clinical Practicum II (2)
PSYC 696	Research Clinical Psychology I (3)
PSYC 698	Research Clinical Psychology II (3)
PSYC 699	Thesis (3)

### Required Elective

0 to 6 credits

### Recommended

PSYC 519	Psychometric Theory (4)
PSYC 578	Behavioral Medicine (4)
PSYC 618	Multivariate Analysis (4)

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## COURSE DESCRIPTIONS

### 504 (4) Memory And Cognition

A survey of the research and theories describing how humans perceive, elaborate, store, recover and use information. Emphasis is placed on understanding and evaluating the experimental strategies used to gather data about human mental processes. F,S  
Pre: PSYC 201 and 207 or 211

### 505 (4) Motivation

Major concepts of human motivation and emotion, presentation of learned cognitive and biological influences on sustained behavior. V  
Pre: PSYC 201, 211, or 217, or Consent

### 507 (4) Advanced Behavior Analysis

The science and technology of Behavior Analysis. The application of the principles of operant and respondent conditioning to the understanding and modification of human behavior. The primary mode of instruction is unit/mastery based on the text. There will also be a lab component involving human and animal experiments. F,S  
Pre: PSYC 207

### 509 (3) History Of Psychology

Examination of the historical origins of the principal contemporary psychological theories. F,S  
Pre: two of PSYC 404, 407, 413, or 421

### 513 (4) Sensation And Perception

How the senses respond to environmental stimuli and how the information they provide is organized into meaningful patterns that make up our experience of the physical world. The effect of maturation and learning in altering those patterns are also considered. F,S  
Pre: PSYC 201, 207, or 211

### 519 (4) Psychometric Theory

An overview of development, use, and validation of psychological tests. Topics include reliability and

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validity, test construction, item analysis, ethics, test administration and scoring, and computerized testing. F  
Pre: PSYC 201

**520 (4) Drugs And Behavior**

Drug and alcohol use and abuse including history, biology, psychology, sociology, and clinical treatment and prevention of abuse. V  
Pre: PSYC 521 or equivalent

**521 (4) Biopsychology**

Biological basis of psychological processes and behavior. Basic topics such as neuroanatomy and neuron function are presented as well as more general ones such as sensation and movement, sleep, memory and learning, schizophrenia and depression.  
Pre: PSYC 201, and either 207 or 211

**522 (4) Neuropsychology**

This course will provide a detailed analysis of the relationship between human behavior and brain function. Basic topics will include cerebral asymmetry, memory, language, and attention as well as behavioral deficits such as learning disabilities, psychiatric disorders, and disconnection syndromes associated with neurological abnormalities. V

**529 (3) Drug Dependence**

Examination of psychological theories relevant to the prevention and treatment of drug abuse. F,S  
Pre: PSYC 101

**533 (4) Child Psychology**

Physical, social, emotional, intellectual, and personality development from conception to preadolescence. Focus on interplay between maturation and experience. F,S  
Pre: 8 PSYC credits

**536 (4) Adolescent Psychology**

This class covers the development of the individual from the age of 11 to 19 years of age. Discussion will include aspects of both normal and abnormal development.

**537 (3) Youth And Sports**

Psychological impact of sports on youthful participants. S

**538 (3) Community Psychology**

The application of psychological principles to the assessment, analysis, intervention, and prevention of social problems. Research from an applied behavior analysis perspective will be emphasized.  
Pre: 3 PSYC courses

**541 (3) Attitudes**

Examining cultural, social, and individual influences on attitude development and change through lectures and discussions of theories and findings, and through experiential activities.  
Pre: PSYC 101

**542 (3) Group Psychology**

Exploring factors affecting leadership and effective group processes through lectures and discussion of theories and findings and through experiential activities. S  
Pre: PSYC 101

**543 (3) Advanced Social Psychology**

An in-depth examination of social psychological research in laboratory and field settings.  
Pre: PSYC 201, 211, and 439

**548 (3) International Behavior**

Images of foreign nations, cultures, people, and products in travel and cross-national contact. Effects of events, crises, news reporting, education persuasion, foreign policy decision-making, and strategies of international conflict resolution. F  
Pre: 8 PSYC credits

**550 (3) Aviation Psychology**

Human factors issues such as workload, automation, fatigue, display format, and communication issues in the aviation environment. S

**551 (3) Methods Of Enhancing Performance**

The role of psychological factors in performance and psychological methods of performance enhancement. Factors examined will include attention, motivation, decision making, mental rehearsal, arousal, and self management. F  
Pre: 8 PSYC credits

**552 (3) Individual Differences**

The nature, extent, and origins of mental, physical, and psychological differences among individuals.  
Pre: PSYC 201

**553 (3) Human Factors**

The person-machine system; the strengths, operating limits, and tendencies of its human component. F  
Pre: PSYC 201 and 211 or 217

**555 (4) Abnormal Psychology**

This course is designed to increase the student's awareness and understanding of abnormal psychology. Students will become familiar with clinical descriptions, course of onset, and treatment regimens specific to various disorders. F,S  
Pre: 8 PSYC credits

**556 (3) Personality**

Major theories of normal personality formation, organization, and structure. F,S

**557 (3) Cross Cultural Psychology**

Subjective culture effects on communication, culture contact, interactions in socialization, education, workplace, travel, gender, and family. S  
Pre: 8 PSYC credits

**560 (3) Psychology Of Women**

Psychological study of women in historical and functional perspective. Role of hereditary, physiological, and socialization variables on women's thinking,

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feelings, and behavior. S

Pre: PSYC 101

**561 (3) Marketing Psychology**

Analysis of product marketing and consumer purchasing strategies and their determinants. F

Pre: 8 PSYC credits

**562 (3) Management Psychology**

Managerial behavior, problems, and effects in planning, problem-solving, decision-making, supervision, leadership, conflict, communication, appraisal, motivation, training, and information systems in organizational environments. S

Pre: 8 PSYC credits

**563 (4) Survey Of Industrial/Organizational Psychology**

An examination of the psychological aspects of human behavior in the work place. Topics include history of Industrial/Organizational psychology, job analysis, performance measurement, predictors of performance, making personnel decisions, training, satisfaction, social perception, motivation, communication, group process, leadership, and organizational culture. F

Pre: PSYC 201, 211, or 217

**564 (3) Environmental Psychology**

Exploring environmental influences on group and individual perceptions, cognition, attitudes and behaviors through lectures and discussion of theories and findings and through experiential activities.

**565 (2) Psychology of Religion**

Psychological processes underlying religious behavior. Religious development, concepts, common to religion and psychology such as belief, guilt, altruism, conscience, self-actualization.

**566 (3) Psychology of Aging**

Aging process and development during the adult years; psychology and psychological concerns of the aging individual; dealing with death. F

Pre: PSYC 101

**573 (3) Teaching of Psychology**

Methods of teaching psychology. S

Pre: PSYC 101

**576 (3) Behavior Therapy**

Principles and procedures of behavior therapy in clinical areas. Emphasis is placed on procedures for developing more appropriate behaviors through positive and negative reinforcement, modeling, and cognitive procedures. Decreasing problematic behaviors through decelerating consequences and exposure techniques is also presented.

Pre: PSYC 211 or 217

**578 (4) Behavioral Medicine**

The interface of behavioral and medical science is explored. Research on environmental and learning

factors in the etiology and treatment of physical disease and rehabilitation is examined. Specific topics include pain management, medical compliance, behavior disorders in nursing homes and on chronic illnesses.

Pre: Three courses in PSYC

**590 (1-3) Workshop**

Topics to be announced. May be retaken for credit.

**591 (1) In-Service: Issues in Behavior Therapy**

Current issues in Behavior Therapy are addressed. Students participate in off-campus didactic activities such as attendance at grand rounds at local hospitals, attendance at national, regional or local professional conferences, and augment learning with library research. Topics vary and students may repeat for credit.

Pre: Permission of instructor. Academic and experience in human services strongly recommended.

**596 (1) Intro. Clinical Research I**

Pre: Permission required. F

**598 (1) Intro. Clinical Research II**

Pre: Permission required. S

**605 (3) Historical Foundations of Modern Psychology**

Examination of the historical origins of contemporary psychology.

Pre: PSYC 409/509

**608 (3) Behavior Modification in Education**

This course involves learning to apply behavior analysis principles to the classroom and to other situations where one must work with groups of normal functioning individuals.

**609 (1-4) Industrial/Organizational Psychology Internship**

Enrollment limited to students in good standing in the Industrial/Organizational track.

**610 (4) Research Design and Statistics**

Research methodology and statistical procedures involving descriptive and inferential techniques for simple and multivariate situations involving parametric and non parametric variables using manual and computer methods.

**613 (4) Behavioral Research Methodology**

Covers methods for analyzing treatments and experimental (as well as quasi-experimental) manipulations that focus on the behavior of the individual subject, multiple N=1, and small group designs.

Pre: PSYC 615

**618 (4) Multivariate Analysis**

Overview of multivariate statistical analyses including: multiple regression, ANCOVA, MANOVA, discriminate function analysis and factor analysis.

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Pre: PSYC 610

**621 (1) Seminar Topics I**

Topics in contemporary psychology. Each instructor selects topic. Sixteen contact hours in seminar format. May be repeated for credit.

Pre: Permission of instructor

**622 (2) Seminar Topics II**

Topics in contemporary psychology. Each instructor selects topic. Thirty-two contact hours in seminar format. May be repeated for credit.

Pre: Permission of instructor

**623 (3) Seminar Topics III**

Topics in contemporary psychology. Each instructor selects topic. Forty-eight contact hours in seminar format. May be repeated for credit.

Pre: Permission of instructor

**624 (4) Seminar Topics IV**

Topics in contemporary psychology. Each instructor selects topic. Sixty-four contact hours in seminar format. May be repeated for credit.

Pre: Permission of instructor

**633 (4) Job Analysis and Performance Appraisal**

An overview of techniques used to measure employee performance. Topics include: Job analysis methods and use of results, criterion development, performance appraisal methods, rater training, bias and accuracy in performance appraisal, organizational and contextual issues.

Pre: PSYC 519

**649 (3) Behavioral Theory and Philosophy**

This course will be a Seminar examining the philosophy of science underlying the field of behavior analysis, and some of the implications of this approach to human behavior. The course is intended for graduate students in Psychology. It will be based on student presentations.

**650 (3) Schools of Psychotherapy**

The major schools of psychotherapy are considered from the perspective of their philosophy of science and empirical support. Research strategies and implications for prescriptive intervention are addressed.

Pre: Admittance to clinical program or consent of instructor.

**651 (4) Adult Psychopath and Therapy**

The diagnosis of adult behavior disorders using the DSM-IV classifications procedures. Behavioral case formulation is emphasized. Students develop skills in cognitive and behavioral intervention strategies.

Pre: Admitted to clinical master's program or permission of instructor.

**653 (3) Behavioral Consultation**

Detailed collaborative approaches to treatment and referral for mental health practitioners. Appropriate

for those going into clinical, school and counseling psychology, as well as those in special education, guidance and student personnel, and administration.

**654 (4) Clinical Case Management**

Techniques of diagnostic assessments, clinical management and intervention applied to behavior disordered patients. This course emphasizes interviewing, report writing and treatment planning.

Pre: Admitted to clinical master's program or permission of instructor.

**655 (3) Group Psychotherapy**

The application of behavior change and social skill development strategies in group therapy formats.

Pre: Admission to clinical program or permission of instructor.

**656 (3) Seminar: Family Psychotherapy**

Family systems and social learning approaches to intervention in troubled family groups. Theory and research is applied to clinical intervention.

Pre: Admitted to clinical program or permission of instructor.

**660 (3) Employee Selection**

Overview of issues and techniques used to make hiring and promotion decisions in organizations.

Topic includes: Introduction of the selection process, legal and affirmative action issues, validity issues in selection, validity generalization, utility and decision making, use of selection methods.

Pre: PSYC 610

**662 (3) Training and Development**

An overview of theories and techniques used to improve employee satisfaction, employee productivity and organizational effectiveness. Topics include: identifying problems, intervention techniques, training, determining the effectiveness of training, and intervention programs.

Pre: PSYC 547

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

Individualized learning under faculty supervision. May be retaken for credit.

Pre: 12 Graduate credits

**682 (4) Child Psychopathology and Therapy**

This course presents behavioral assessments and interventions for children and adolescents who are exhibiting a variety of psychological disorders such as oppositional defiant disorder, attention deficit disorder, fears/phobias, depression, and adjustment disorders. Data based cognitive behavioral interventions with youths, their families, and their environments will be emphasized. S Alt E

Pre: PSYC 683

**683 (4) Behavioral Assessment**

An introduction of the basic theoretical principles and techniques of behavioral assessment in clinical psychology for targeting specific behaviors as the

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beginning step in treatment, and as a system for evaluating outcomes. Techniques include direct observation, self-monitoring, behavior rating scales, behavioral interviews, task analytic, and cognitive-behavioral measures. F

### **684 (3) Personality Assessment**

This course will focus exclusively on personality testing. Some of the tests covered will be objective (e.g., MMPI II), projective (e.g., Rorschach and Thematic Apperceptions Test), and internalization disorders (e.g., depression indexes).  
Pre: PSYC 419/519

### **686 (3) Clinical Assessment**

This course is designed to be a comprehensive assessment course. Multiple tests will be covered in the areas of intelligence, adaptive behaviors, behavior management measures, personality, and psychopathology. The end goal of the course is competence in administering a complete battery of tests and writing a professional report on the results.

### **689 (3) Standards and Ethics**

Details the principles and standards put forth by the APA to guide the profession of Psychology. The course is oriented towards those going into either a career in therapy (i.e., clinical, counseling, or school psychology) or industrial/organizational psychology.

### **691 (2) Clinical Practicum I**

Students are placed in clinical settings under the supervision of a licensed psychologist. Placements vary among hospitals, private clinics, and county mental health agencies. Clinical Practicum I covers the first 150 clock hours of the 300 hours needed to fulfill the practicum requirement.

Pre: Admitted to clinical master's program, OR Permission of Director of Clinical Training

### **692 (2) Clinical Practicum II**

Extension of Practicum I. Students complete the second 150 hours of the 300 hours of supervised practice.

Pre: Admitted to clinical master's program, OR Permission of Director of Clinical Training

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

Individualized student paper based on an extensive review of literature in some area of Psychology.

### **695 (2) Research in Industrial/Organizational Psychology I**

Developing research proposals/projects, ethic committee review, implementing consulting projects, data collection, report writing, presentation to professional societies, and submitting funding requests.

Pre: Consent

### **696 (3) Research in Clinical Psychology I**

Students participate on laboratory teams with clinical faculty. Teams develop research proposals and write

ethics committee proposals. Projects include clinical field studies, survey studies, and single subject intervention. Students are expected to present findings at meetings of professional associations.

Pre: Permission of instructors, Director of Clinical Training, and admission to clinical program

### **697 (2) Research in Industrial/Organizational Psychology II**

Continuation of Research in Industrial/Organizational Psychology I.

Pre: Consent

### **698 (3) Research in Clinical Psychology II**

Continuation of Research in Clinical Psychology I.

Pre: Permission of instructors, Director of Clinical Training, and admission to clinical program

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

Individualized student research paper which involves a literature review and original research.

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## **COMMUNICATION DISORDERS MS**

*College of Allied Health & Nursing  
Communication Disorders Department  
103 Armstrong Hall • 507-389-1414*

Chair: Bruce Poburka, Ph.D.

Cynthia Busch, Ph.D., Patricia Hargrove, Ph.D., Judith Kuster, MS, Wayne S. Quirk, Ph.D.

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Communication Disorders is a discipline in human services offering graduates rewarding careers in speech and language pathology. A Master of Science program is available for students who have an undergraduate major in communication disorders or its equivalent. Employment opportunities are commonly available in schools, hospitals, rehabilitation centers, and private practice. The thesis or the alternate plan programs, when combined with students' undergraduate preparation, lead to the academic and practicum requirements for the Certificate of Clinical Competence (CCC) in Speech Pathology issued by the American Speech, Language and Hearing Association (ASHA). Effective January 1, 1994, all graduate work applied toward the CCC must have been initiated and completed at a program accredited by the Council on Academic Accreditation (CAA) of ASHA. The Graduate Program in Communication Disorders is accredited by CAA.

**Program Purpose.** It is the purpose of the Master of Science Program in Communication Disorders to provide a high quality of student preparation leading to careers in human services for persons with communication disorders and to promote scientific investigation in the normal and abnormal development and use of speech, language and hearing.