

MSE 577 (BIOL 577)(ME 577) BIOMATERIALS (3-0-3)(F/S). Theory of biomaterials science. Medical and biological materials and their applications. Selection, properties, characterization, design and testing of materials used by or in living systems. May be taken for BIOL, ME or MSE credit, but only from one department. PREREQ: ENGR 245 or CHEM 112.

MSE 588 BIOCOMPATIBILITY AND ENVIRONMENTAL DEGRADATION (3-0-3)(F/S). Theory of environmental degradation of metals, ceramics, polymers and biomaterials. The scientific principles of materials degradation with emphasis on material interactions within a living organism (in vivo). PREREQ: CHEM 112 or ENGR 245.

PHYS—PHYSICS

PHYS 512 INTRODUCTORY QUANTUM MECHANICS (3-0-3)(F/S). Introduction to fundamentals of quantum mechanics, including Schrodinger equation, energy levels, angular momentum, electron spin, perturbations, and scattering. Applications, such as tunneling, orbitals, magnetic resonance, and nanoscale effects. PREREQ: PHYS 309.

PHYS 515 SOLID STATE PHYSICS (3-0-3)(F/S). Quantum physics applied to understanding the properties of materials, including semiconductors, metals, superconductors, and magnetic systems. PREREQ: PHYS 309.

PHYS 523 PHYSICAL METHODS OF MATERIALS CHARACTERIZATION (3-0-3)(S). Physical principles and practical methods used in determining the structural, electronic optical, and magnetic properties of materials. Course topics will include optical, electron, and scanning microscopies, diffraction, surface analysis, optical spectroscopy, electrical transport, and magnetometry. Individual projects will focus on the application of an analytical technique to solve a specific problem. PREREQ: PHYS 309 or PERM/INST.

PHYS 530 OPTICS (3-0-3). Geometrical and physical optics, including lenses, fiber optics, Fourier optics, polarization, interference, diffraction, lasers, and holography. PREREQ: PHYS 212, MATH 333. COREQ: PHYS 534.

PHYS 532 THERMAL PHYSICS (3-0-3)(S). Discussion of temperature, work, specific heat, and entropy. The laws of thermodynamics are discussed and applied to physical problems. Ideal gases, statistics, Gibbs free energy, and cryogenics. Work on heat transfer of lattice vibrations and phonons will be required. PREREQ: Graduate standing or PERM/INST.

PHYS 534 OPTICS LABORATORY (0-3-1). Laboratory to be taken concurrently with PHYS 530. Experiments in optics, including optical systems, thick lenses, interference, diffraction, Fourier optics, image processing, and holography. COREQ: PHYS 530.

PHYS 536 SOFT MATTER (3-0-3)(S)(Even years). Introduction to the physical principles underlying the properties and behaviors of soft matter, including polymers, gels, colloids, and liquid crystals. Examples of soft matter include glues, paints, soaps, rubber, foams, gelatin, milk, and most materials of biological origin. (Recommended preparation: PHYS 309.) PREREQ: MATH 275, PHYS 212, and CHEM 322 or MSE 308 or PHYS 432.

Graduate Certificate in Addiction Studies

College of Education
Department of Counselor Education

College of Health Sciences
Master of Health Science Program

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General Information

The Graduate Certificate in Addiction Studies is an **interdisciplinary program** offered by the Department of Counselor Education (College of Education), and the Master of Health Science Program (College of Health Sciences). The **postgraduate certificate** is designed for professionals employed in substance abuse education, prevention or intervention settings. The goal of the certificate program is to prepare students for a variety of positions in the addiction field. The graduate certificate meets the didactic experiences required to become a nationally credentialed Master Addictions Counselor (MAC if holding a Master's in Counseling), and an Idaho Certified Alcohol and Drug Counselor (CADC, if holding a baccalaureate degree in Psychology, Sociology, Health Sciences, or other health related degree) or Advanced Certificate Alcohol and Drug Counselor (ACADC, if holding a related graduate degree).

Admission and Application Requirements

Admission Requirements Applicants are required to have a baccalaureate degree from an accredited institution, to have completed COUN 545/MHLTHSCI 545 Foundations of Chemical Dependency or its equivalent, and must have achieved a cumulative undergraduate GPA of at least 3.00 on a 4.00 scale. However, these minimum requirements do not guarantee admission to the program. **Admission recommendations will be based upon a review of the student's transcripts and resume, letters of reference, Statement of Purpose, and interview.**

Application Procedures An applicant should follow the general application procedures for graduate degree-seeking students (see Applying as a Degree-Seeking Student in the Graduate Admission Policies and Procedures section of this catalog). In addition, an applicant must submit the following documents to the Graduate Certificate Program Advisor in either the College of Health Sciences or College of Education:

1. a resume;
2. a statement of purpose in which the student explains his/her motivation for pursuing a Graduate Certificate in Addiction Studies and describes his/her career interests; and
3. three letters of reference from previous professors evaluating the applicant's academic potential. (For applicants whose academic record predates the application by five years or more, supervisors may submit the letters of reference. For applicants who applied for a graduate program within 3 years, those references can be used.)

Once the applicant's file is complete, the Addiction Studies Graduate Certificate Committee will evaluate, interview, and an admission

recommendation (regular, provisional, or denial) will be forwarded to the Program Directors (Chairs) of the Counselor Education and Master of Health Science Program. In the case of a recommendation for provisional admission, the Committee will also establish the stipulations that must be satisfied by the student to advance to regular status. Admission to the Certificate in Addiction Studies does not guarantee subsequent admission to any other certificate or graduate degree programs.

Certificate Requirements

A minimum of 18 credits is required for completion of the Graduate Certificate in Addiction Studies. The program leading to the Graduate Certificate in Addiction Studies is of primary relevance to students interested in the following occupation (Standard Occupational Classification code in parentheses): Substance Abuse and Behavioral Disorder Counselors (21-1011). Information on SOC-coded occupations is available at www.bls.gov/soc/major_groups.htm and subsidiary links. The normal time to complete the certificate requirements is 2 years, the tuition and fees for normal time completion are estimated to be \$5,292 (part-time status), and the typical cost for books and supplies not included in tuition and fees is estimated to be \$900. It is very important that interested students consult the graduate program coordinator for clarification of this information, especially the role of the certificate in preparing individuals for employment in specific occupations.

Prerequisite for the certificate program is COUN 545/MHLTHSCI 545 Foundations of Chemical Dependency (Offered every Fall semester, evening class once per week).

Graduate Certificate in Addiction Studies	
Course Number and Title	Credits
COUN 541/MHLTHSCI 544 Addiction and the Family System	3
COUN 544/MHLTHSCI 564 Screening and Assessment of Alcohol and Drug Problems	3
COUN 546/MHLTHSCI 565 Assessment and Case Management of Alcohol and Drug Problems	3
A minimum of 9 credits from the following:	9
COUN 543/MHLTHSCI 543 Assessing and Managing Adolescent Substance Abuse and Mental Health Risks	3
COUN 547/MHLTHSCI 547 Chemical Addictions and Violence Prevention.....	3
COUN 550/MHLTHSCI 568 Diagnosis, Assessment and Treatment Planning	2
COUN 567/MHLTHSCI 567 Clinical Supervision Principles and Practice.....	1
HILTHST 469 Ethics for Addiction Professionals OR COUN 508 Special Needs, Ethics, and Legal Issues in Counseling.....	2-3
MHLTHSCI 548 Counseling Skills for Addiction Professionals OR COUN 502 Counseling Theories & Application	3
Total	18
<ul style="list-style-type: none"> • Course prerequisites or permission of the instructor must also be met. • Students who wish to enroll in courses other than those specified may do so by permission of the Addiction Studies Graduate Certificate Committee. • Students must maintain a minimum 3.0 GPA in all certification course work. • Students seeking Alcohol/Drug Counselor certification are strongly advised to take HILTHST 469 and MHLTHSCI 548 if not pursuing the Masters of Counseling Program. 	

Course Offerings

See page 52 for a definition of course numbering and terminology.

COUN—COUNSELING

COUN 541 (MHLTHSCI 544) ADDICTION AND THE FAMILY SYSTEM

(3-0-3)(F,S). Examination of multigenerational impact of addiction (drugs, alcohol, work, religion, internet, gambling etc.) on the family system. In addition to dysfunctional roles developed to cope with addiction, class also compares and contrasts communication strategies and parenting styles of unhealthy and healthy family systems. Risk and protective factors, stages of change, and continuum of care from prevention, intervention, treatment and aftercare are addressed. May be taken for COUN or MHLTHSCI credit, but not both. PREREQ: HILTHST 109 or COUN/MHLTHSCI 545 or PERM/INST.

COUN 543 (MHLTHSCI 543) ASSESSING AND MANAGING ADOLESCENT SUBSTANCE ABUSE AND MENTAL HEALTH RISKS (3-0-3)(S)(Odd years).

Introduction to comprehensive adolescent risk assessment and treatment planning. Examination of current and available comprehensive adolescent assessments, current and available specialized assessments, report writing approaches and effective treatment processes. May be taken for COUN or MHLTHSCI credit, but not both. PREREQ: Graduate standing.

COUN 544 (MHLTHSCI 564) SCREENING AND ASSESSMENT OF ALCOHOL AND DRUG PROBLEMS (3-0-3)(F).

Emphasis on screening and assessment tool-procedures for substance abuse. Application of current interventions and screening processes. Legal, social, ethical, and health implications will be investigated. May be taken for COUN or MHLTHSCI credit, but not both. PREREQ: HILTHST 109 or COUN/MHLTHSCI 545 or PERM/INST.

COUN 546 (MHLTHSCI 565) ASSESSMENT AND CASE MANAGEMENT OF ALCOHOL AND DRUG PROBLEMS (3-0-3)(S).

Emphasis on case management techniques including legal, social, ethical, and health implications. May be taken for COUN or MHLTHSCI credit, but not both. PREREQ: MHLTHSCI 564 or COUN 544 or PERM/INST.

COUN 547 (MHLTHSCI 547) CHEMICAL ADDICTIONS AND VIOLENCE PREVENTION (3-0-3)(SU).

Introduction to professional, ethical, legal, and practical aspects of chemical addictions and violence prevention (primary and secondary) in the schools and other settings (e.g., adolescent treatment). Examination of current research and available curriculum models, current identification and intervention approaches, and effective prevention programming. Historical and social contexts (e.g., Safe and Drug Free Schools and communities initiative) also included. May be taken for COUN or MHLTHSCI credit, but not both. PREREQ: Graduate standing.

COUN 550 (MHLTHSCI 568) DIAGNOSES, ASSESSMENT, AND TREATMENT PLANNING (2-0-2)(F).

Examination of concepts of "mental disorders," DSM classification systems, and the diagnostic benefits and diagnostic problems inherent in such systems. An introduction and overview of the major psychopathological syndromes of adolescents and adults (especially in the area of Co-morbidity of Substance Abuse/Dependence and other DSM IV diagnoses) to facilitate appropriate use of assessment-diagnostic-treatment links (including treatment planning). May be taken for COUN or MHLTHSCI credit, but not both. PREREQ: PERM/INST.

COUN 567 (MHLTHSCI 567) CLINICAL SUPERVISION PRINCIPLES AND PRACTICE (1-0-1)(SU)(Odd years).

Theory and skill development for practitioners who are or will be supervising interns and/or professionals in school, agency, and other settings. Topics include ethical issues in clinical supervision, models and best practices, documentation, and troubleshooting problematic dynamics. May be taken for COUN or MHLTHSCI credit, but not both. PREREQ: PERM/INST.