

Course ID	Old Course Number	Status	Course Title	New Course Number	Course Description
012612	ABIN 5101	A	Guided Observation	ABIN 5101	Graduate seminar with emphasis on topics related to clinical or rehabilitative audiology. May be repeated for additional credit. Not to exceed a total of six semester credit hours. Broad overview of the issues regarding intervention with children who are deaf or hard of hearing using listening technologies to learn to listen and talk. Emphasis is on the role of the professionals with whom these children will work. Observations of therapies, parent-child interactions, classroom learning experiences as well as conversations with guest faculty are essential components of this course.
012613	ABIN 5103	A	Intro to Aud Based Interv	ABIN 5103	Core competencies and content areas for professionals working with children who are D/HH are introduced. Practical information about this career option includes employment opportunities, clinical service delivery models, and technological innovations. Students will be involved in interdisciplinary professional activities and interdisciplinary collaboration. The role of audition in early language development to support reading outcomes. Emphasis is on establishing a rich linguistic environment in home and at school to facilitate emergent literacy.
012614	ABIN 5111	A	Effective Communication	ABIN 5111	Graduate seminar with emphasis on topics related to clinical or rehabilitative audiology. May be repeated for additional credit. Not to exceed a total of six semester credit hours. Exploration of the elements of conversational structure from the perspective of both the sender and the receiver. Emphasis is on the thoughtful preplanning that increases the likelihood that conversations will be productive. Role play activities and simulated conversations will contribute to the development of new knowledge and skills that can assist in more effective professional conversations.
012615	ABIN 5113	A	Family-Centred Intervent	ABIN 5113	Audiometric evaluation procedures and the habilitation/rehabilitation of infants and children with hearing loss. Emphasis is placed on the determination of appropriate remediation, language and speech therapy, auditory training, and counseling parents for home programming. A habilitative and educational approach to service provision for young children who are deaf or hard of hearing. Emphasis is placed on Family-Centered Intervention that empowers parents to take an active role in their child's listening and spoken language development, highlighting the gradual shift of advocacy from family to child.
012618	ABIN 5121	A	Assessmts, Instruc Design	ABIN 5121	Graduate seminar with emphasis on topics related to clinical or rehabilitative audiology. May be repeated for additional credit. Not to exceed a total of six semester credit hours. A comprehensive survey of the materials available for the effective assessment of Listening and Spoken Language skills in children who are d/hh. The administration, interpretation, and application of results will be considered in regard to intervention planning and treatment options. Adaptation of common standardized assessments for the d/hh population will also be discussed.
012619	ABIN 5123	A	Managing Listening Tech	ABIN 5123	The delivery of audiology services to a school-based population. Includes the development, management and utilization of hearing and middle ear system screening programs, classroom acoustics, selection and fitting of classroom based amplification, and federal laws associated with children who have special needs. Functional use of listening technology, its proper fitting, maintenance, and the need for good acoustic environments. Emphasis is on the relationship of LSL outcomes to device wear time, aggressive auditory management and timely intervention.
012620	ABIN 5131	A	Telepractice for Families	ABIN 5131	Graduate seminar with emphasis on topics related to clinical or rehabilitative audiology. May be repeated for additional credit. Not to exceed a total of six semester credit hours. Principles of delivering Listening and Spoken Language services through telepractice. Emphasis is on the management of required technology as well as the skill set of the service provider for distance intervention to families and children in remote locations.
012622	ABIN 5201	A	Practicum in Listening	ABIN 5201	Applied, supervised practicum experiences for graduate students that encompass the full breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
012624	ABIN 5401	A	Grand Rounds & Prof Prac	ABIN 5401	Graduate seminar with emphasis on topics related to clinical or rehabilitative audiology. May be repeated for additional credit. Not to exceed a total of six semester credit hours. Final academic course in the Auditory-Based Intervention sequence. Presentation of a case study highlighting assessment and intervention activities as well as interpretation of child outcomes as a function of intervention plans. Discussion of issues related to ethical professional practice and ongoing professional learning are addressed.
012702	ASP 505V	A	Practicum	CSDM 5051	Applied, supervised practicum experiences for graduate students that encompass the full current scope of practice with both adults and children from culturally diverse backgrounds.
012728	ASP 513V	A	Topic in Sp-Lng Pathology	CSDM 5202	A seminar offered for special projects or topics related to procedures and instrumentation, theoretical foundations, assessment, clinical, or rehabilitative speech-language pathology. May be repeated for additional credit not to exceed 9 hours.
012729	ASP 516V	INV	Independent Research	CSDM 5363	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted. Prerequisite: CSDM 5013.
011226	ASP 530V	A	Ind Study in Comm Disorders	CSDM 5304	Prerequisites: Consent of the instructor. Directed readings in audiology and/or speech/language pathology, individual discussion with a faculty member. May be repeated for up to six (6) hours of credit. Offered as needed.
011228	ASP 536V	INV	Independent Research (RK)	CSDM 5363	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted. Prerequisite: CSDM 5013.
011356	ASP 536V(1)	INV	Directed Research	CSDM 5363	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted. Prerequisite: CSDM 5013.
010233	ASP 600V	A	Thesis	CSDM 5201	Thesis students must register for a total of 6 semester hours; one (1) to six (6) credit hours per semester. Prerequisite: CSDM 5013.
010543	ASP 604V	A	Research Project	CSDP 6108	This course covers skills necessary to complete a research project consisting of a research question, review of the literature, methodology, data collection, data analysis and written report.
015190	ASP 604V	A	UCA: Research Project	CSDP 6108	This course covers skills necessary to complete a research project consisting of a research question, review of the literature, methodology, data collection, data analysis and written report.
010550	ASP 610V	A	Teaching Internship	CSDP 6114	Provides students with supervised experience in academic instruction.
010551	ASP 611V	A	Supervision Internship	CSDP 6115	Provides students with supervised experience in clinical supervision and instruction.
010553	ASP 700V	A	Dissertation	CSDP 6201	Completion of an original research project in collaboration with the dissertation advisor and committee. Successful completion of an oral defense to the dissertation committee. Continual enrollment is required until all related requirements are completed.

The course concordance is subject to change. Please refer to the newest version at registrar.uams.edu and avoid saving a local copy.

Status Key: A = Active Course; INV = Inactive; New Version (the renumbering listed is equal to the new version)

011317	ASP 5013	A	Res. Mtds in Commu. Disor	CSDM 5013	Introduction to research methodologies in audiology and speech pathology. Includes prospectus development, funding sources, data collection and analysis, and professional research writing and editing in communicative disorders and/or speech sciences.
007067	ASP 5023	INV	Bas Diag Audiology	AUDI 5023	Principles and techniques for basic audiologic evaluation, including pure tone testing, speech audiometry, and the clinical application of masking, immittance, and otoacoustic emissions. Relevant calibration issues will also be discussed.
011013	ASP 5031	INV	Independent Study	CSDM 5304	Prerequisites: Consent of the instructor. Directed readings in audiology and/or speech/language pathology, individual discussion with a faculty member. May be repeated for up to six (6) hours of credit. Offered as needed.
011080	ASP 5033	INV	Ed Audio	AUDI 5033	The delivery of audiology services to a school-based population. Includes the development, management, and utilization of hearing and middle ear system screening programs, classroom acoustics, selection and fitting of classroom-based amplification, and federal laws associated with children who have special needs.
007070	ASP 5041	INV	Clinical Lab	AUDI 5041	Lab instruction in clinical procedures and methods for evaluation and treatment of clients and care, maintenance and use of technology in audiology clinical practice. Perform evaluation and rehabilitation procedures under faculty supervision.
012724	ASP 5042	A	Aug & Alternative Communi	CSDM 5042	Theory, design, and organization of nonverbal communication systems. Emphasis on considerations for choosing specific devices for particular clients. Includes manual, graphic, electronic, and mechanical systems.
007068	ASP 5043	INV	A/P of Aud&Vest Sys	AUDI 5043	Detailed information of the anatomy, physiology, electrophysiology, and neurophysiology of the auditory and vestibular systems.
010676	ASP 5051	INV	Practicum	CSDM 5051	Applied, supervised practicum experiences for graduate students that encompass the full current scope of practice with both adults and children from culturally diverse backgrounds.
009271	ASP 5052	INV	Practicum	CSDM 5051	Applied, supervised practicum experiences for graduate students that encompass the full current scope of practice with both adults and children from culturally diverse backgrounds.
011285	ASP 5053	INV	Acoustics & Psychoacousti	AUDI 5053	Basic information regarding the physics of sound, the measurement of sound and an introduction to the psychoacoustic basis of hearing and its clinical applications.
011185	ASP 5058	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
010938	ASP 5063	INV	Auditory Processing	AUDI 5063	Theoretical overview, differential assessment, and treatment of adults and children with auditory processing disorders (APD). Intended to blend theoretical knowledge with practical clinical methods and techniques. Prerequisites: AUDI 5023.
015173	ASP 5073	A	Adv Anat & Phys for Speech	CSDM 5073	Investigates the anatomy and physiology of speech and language. Topics include respiration, phonation, articulation, and neurological control of speech and language, and embryological development of the speech structures.
010205	ASP 5073	INV	Adv Anat & Phys for Speec	CSDM 5073	Investigates the anatomy and physiology of speech and language. Topics include respiration, phonation, articulation, and neurological control of speech and language, and embryological development of the speech structures.
015174	ASP 5093	INV	Neurogenic Language Disorders	CSDM 5093	Assessment procedures and intervention techniques for acquired neurogenic language disorders in adults. Covers language disorders secondary to cerebrovascular accident, traumatic brain injury, and dementia.
012704	ASP 5093	A	Neuro. Lang. Disorders	CSDM 5093	Assessment procedures and intervention techniques for acquired neurogenic language disorders in adults. Covers language disorders secondary to cerebrovascular accident, traumatic brain injury, and dementia.
009274	ASP 5103	INV	MEDICAL AUDIOLOGY	AUDI 5103	Introduction to the major pathologies of the auditory and vesitular systems, as well as medical/surgical treatment of those pathologies. Audiologic assessment and management of the disorders will also be discussed. Prerequisites: AUDI 5023 and AUDI 5043
012703	ASP 5113	A	Language Assessment & Therapy	CSDM 5113	Acquisition of first language competence in relationship to language behavior. Includes the phonological, morphological, syntactical, and semantic components of language. Language deviations-emphasis on symptomology, etiology, evaluation, and therapy. Language testing and therapy explored in the second half of the course.
015175	ASP 5113	INV	Language Assessment & Therapy	CSDM 5113	Acquisition of first language competence in relationship to language behavior. Includes the phonological, morphological, syntactical, and semantic components of language. Language deviations-emphasis on symptomology, etiology, evaluation, and therapy. Language testing and therapy explored in the second half of the course.
012727	ASP 5122	A	Fluency Disorders	CSDM 5122	Procedures, theories and therapeutic techniques in the treatment of various types and degrees of stuttering and cluttering
009921	ASP 5132	INV	Speech Perception	AUDI 5132	Production and perception of speech sounds and the prosodic features of speech. Several theories of speech perception presented and discussed, and the effects of hearing loss on speech production and perception explored.
011223	ASP 5133	A	Infant Toddler Communicat	CSDM 5133	Investigates prelinguistic/early linguistic communication and feeding/swallowing development. Multidisciplinary assessment and intervention for infants and toddlers (birth to five) with special needs and their families. Current formal and informal assessment tools and techniques, current intervention strategies, enhancing the therapeutic process across environments, utilizing team collaboration, and facilitating parent-infant interaction.
015177	ASP 5142	A	Sociolinguistics	CSDM 5142	The linguistic structure of language, nature, and forms of symbolic behavior. Human uses of symbols from various groups and socio-economic levels, particularly in communication. Prerequisite: Courses in phonetics and normal language acquisition.
011079	ASP 5142	INV	Adv Electrophys	AUDI 5143	Principles and techniques in the use of mid- and late-evoked potentials to assess auditory function. Prerequisite: AUDI 5083
010214	ASP 5152	A	Org & Admin Clin Programs	CSDM 5152	Organization, administration and accreditation of school, university, and community programs. Private practice and billing procedures. Various and alternative career opportunities including corporate speech pathology practice. Issues related to medicaid, medicare and other third party payers, as well as current legislation. Governmental and professional practice issues.
007160	ASP 5153	INV	Pediatric Audiology	AUDI 5153	Normal auditory development and theoretical, clinical, and practical issues involved in screening, assessment, and management of children with hearing loss. Prerequisite: AUDI 5023
010668	ASP 5161	INV	Independent Research	CSDM 5363	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted. Prerequisite: CSDM 5013.
011224	ASP 5162	INV	Genetics of Hearing Loss	AUDI 5162	Basic information on the genetic basis of hearing loss and an overview of syndromic and non-syndromic hearing losses. Strategies for referral to genetic counselors and other health care professionals will be included. Prerequisite: AUDI 5103

011178	ASP 5163	A	Aud Bas Spch/Lang Intervention	CSDM 5163	Auditory-based speech and language intervention with infants and toddlers who are deaf and/or hard of hearing. Emphasis is on the principles of the normal developmental sequence of listening skills, assessment of skills obtained within the hierarchy, and intervention aimed at teaching skills not yet acquired. Auditory based intervention for infants and toddlers requires family participation; therefore, learning styles of parents and caregivers will be discussed.
011336	ASP 5164	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011334	ASP 5165	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011275	ASP 5166	INV	Prac - Clin Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011286	ASP 5168	INV	Prac. Clin. Extern. Sec.4	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
009923	ASP 5173	A	Counsel In Comm Disorders	CSDM 5173	Principles of counseling for working with persons with communication disorders and their families throughout the lifespan. Students review major theories of counseling and select those most useful for the various settings and practices of audiology and speech pathology. Students demonstrate their understanding of the counseling process through case presentations.
012785	ASP 5183	A	Adv Articulation Disorders	CSDM 5183	Advanced study of functional and organic articulation disorders, variables related to articulation, assessment and diagnosis of articulation disorders, and therapeutic procedures.
012726	ASP 5192	A	Neurogenic Sp Disorders	CSDM 5192	Assessment procedures and intervention techniques for acquired neurogenic speech disorders in adults, especially dysarthria and verbal and oral apraxia.
010936	ASP 5212	INV	Hearing Conversation	AUDI 5212	Noise measurement, OSHA requirements, occupational noise management, recreational audiology, and designing and implementing hearing conservation programs for adults and children. Prerequisites: AUDI 5023 and AUDI 5113.
012725	ASP 5213	A	Dysphagia	CSDM 5213	Examines normal oral, pharyngeal, and esophageal swallowing function in adults and children including neurology, physiology, and the effects of aging. Swallowing disorders discussed with an emphasis on oral and pharyngeal function. Various methods of evaluation, as well as current management and treatment options.
010795	ASP 5222	INV	Professional Issues	AUDI 5222	Personal and professional ethical values and their applications to dilemmas encountered in the clinical practices of audiology and speech pathology will be explored with students. Preferred practices and criteria for quality services will be topics for discussion.
007159	ASP 5223	INV	Amplification I	AUDI 5223	Effective use of hearing aids and auditory training equipment. Includes their component parts, electroacoustic analysis, hearing aid orientation/counseling, and approaches to hearing aid evaluation. Prerequisite: AUDI 5023
010937	ASP 5232	INV	Aud.Pract.Mgmt	AUDI 5232	Roles of audiologists in meeting the needs of the communicatively impaired. Students will understand preferred practices, criteria for quality services and quality improvement through the evaluation of service delivery models and exploration of the laws affecting service delivery in health care and educational settings.
009273	ASP 5233	A	Audiologic Rehab: Children	CSDM 5233	Audiometric evaluation procedures and the habilitation/ rehabilitation of infants and children with hearing loss. Emphasis is placed on the determination of appropriate remediation, language and speech therapy, auditory training, and counseling parents for home programming.
010674	ASP 5243	A	Audio Rehab/Adult	CSDM 5243	Principles of audiologic rehabilitation for adults, including diagnosis, counseling, use of amplification and other assistive devices, and communication strategies. Various models of audiologic rehabilitation presented.
010670	ASP 5254	INV	AUDIOLOGIC REHAB/ADULT	CSDM 5243	Principles of audiologic rehabilitation for adults, including diagnosis, counseling, use of amplification and other assistive devices, and communication strategies. Various models of audiologic rehabilitation presented.
010226	ASP 5262	A	Craniofacial Sp Disorder	CSDM 5262	Provides an understanding of speech disorders often associated with craniofacial differences. Information presented on craniofacial development, relevant anatomy and physiology, as well as procedures for evaluation (both behavioral and instrumental) and treatment of craniofacial speech disorders. A team approach to care is emphasized.
009924	ASP 5263	INV	Bal Eval&Treatment	AUDI 5263	Basic information on the evaluation and treatment of balance disorders. Topics: anatomy and physiology of the vestibular, oculomotor, and proprioceptive systems; clinical tests of electronystagmography, dynamic posturography, and rotary chair. Medical and surgical treatments and rehabilitation strategies for vestibular/balance pathologies. Prerequisite: AUDI 5043
015178	ASP 5273	A	Adv Dif Diag of Spch & Lng Dis	CSDM 5273	Advanced study in differential diagnosis of speech and language disorders of children and adults. Proficiency in the use and interpretation of standardized assessment procedures. Prerequisite: an under-graduate course in diagnostic methods or its equivalent.
011884	ASP 5273	INV	Implant Device Technology	CSDM 5273	Advanced study in differential diagnosis of speech and language disorders of children and adults. Proficiency in the use and interpretation of standardized assessment procedures. Prerequisite: an under-graduate course in diagnostic methods or its equivalent.
010229	ASP 5282	A	Learning Disabilities	CSDM 5282	An introduction to the characteristics, definitions, etiologies, assessment and therapeutic procedures in the treatment of children diagnosed with learning disabilities. Emphasis will be place on the scope of practice for speech-language pathologists and audiologists in the due process procedure for these children.
009272	ASP 5293	A	Multicultural Issues	CSDM 5293	Systematic analysis of cultural similarities and differences. Examine cultural differences, verbal and nonverbal, in the clinical setting.
011180	ASP 5301	INV	Independent Study	AUDI 5301	Prerequisites: Graduate standing and consent of instructor. Directed readings in audiology and/or speech/language pathology, individual discussion with a faculty member. (1-3 hours) May be repeated for up to 6 hours credit.
011182	ASP 5302	INV	Independent Study	CSDM 5304	Prerequisites: Consent of the instructor. Directed readings in audiology and/or speech/language pathology, individual discussion with a faculty member. May be repeated for up to six (6) hours of credit. Offered as needed.
011183	ASP 5303	INV	Independent Study	CSDM 5304	Prerequisites: Consent of the instructor. Directed readings in audiology and/or speech/language pathology, individual discussion with a faculty member. May be repeated for up to six (6) hours of credit. Offered as needed.
012753	ASP 5342	INV	Sociolinguistics	CSDM 5142	The linguistic structure of language, nature, and forms of symbolic behavior. Human uses of symbols from various groups and socio-economic levels, particularly in communication. Prerequisite: Courses in phonetics and normal language acquisition.

012754	ASP 5353	A	Voice Disorders	CSDM 5353	Assessment procedures and rehabilitative techniques for voice disorders in children and adults. Instrumental and behavioral approaches, as well as medical and/or surgical treatment approaches. A team approach to care is emphasized.
011192	ASP 5361	INV	Independent Research	CSDM 5363	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted. Prerequisite: CSDM 5013.
011222	ASP 5362	INV	Ind. (Directed) Research	CSDM 5363	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted. Prerequisite: CSDM 5013.
011193	ASP 5363	A	Independent Research	CSDM 5363	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted. Prerequisite: CSDM 5013.
011227	ASP 5401	INV	Aud. Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
011229	ASP 5402	INV	Audiology Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
011236	ASP 5403	INV	Audiology Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
011225	ASP 5404	INV	Clin. Extern. (Aud.Prac.)	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011233	ASP 5405	INV	Clin. Ext. (Aud. Pract.)	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011232	ASP 5406	INV	Clinical Ext. (Aud Prac.)	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011315	ASP 5408	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011316	ASP 5409	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
010793	ASP 5603	INV	Acoustics/Psychoacoustics	AUDI 5053	Basic information regarding the physics of sound, the measurement of sound and an introduction to the psychoacoustic basis of hearing and its clinical applications.
010539	ASP 6003	A	Advanced Research Methods	CSDP 6101	Introduces theory, principles and practices of research design in communication sciences and disorders. Emphasis on methodology of collecting, organizing, analyzing and presenting both qualitative and quantitative data. Topics will include: research questions and problems, literature and background review, group and single-subject research design, data organization and manipulation, scientific writing, and the publication and presentation process.
011211	ASP 6013	A	Doctoral Sem in Hearing	CSDP 6103	Engages students in the exploration and evaluation of current research and practice related to hearing science, hearing disorders, evaluation and remediation. Content reflects recent developments in the literature and specific interests of participants. Topics may include the anatomical basis of hearing science, acoustics and instrumentation, psychoacoustics, physiological acoustics, physiological evaluation of hearing, hearing conservation, amplification, and aural habilitation and rehabilitation.
011212	ASP 6023	A	Doctoral Sem in Speech	CSDP 6105	Engages students in the exploration and evaluation of current research, practice, and technology related to speech development and disorders. Content reflects recent developments in the literature and specific interests of participants. Relevant topics may include motor speech disorders, speech science, physiological and neurophysiological bases of speech production, voice, dysphagia, fluency, articulation, phonology, phonological theory, craniofacial anomalies, gerontology, AAC.
011213	ASP 6033	A	Doctoral Sem in Language	CSDP 6107	Engages students in the exploration and evaluation of current research, practice, and technology related to language development and disorders. Content reflects recent developments in the literature and specific interests of participants. Topics may include child language development and specific developmental disorders, neurophysiological bases of language and communication, neurogenic cognitive-linguistic disorders, AAC, multicultural issues, gerontology.
010544	ASP 6052	A	Grant Writing Pedagogy	CSDP 6109	Covers strategies for identifying funding agencies appropriate for research and special programs. Emphasis will be on techniques for writing grant proposals for both private and public funding.
010545	ASP 6062	A	Supervision Pedagogy	CSDP 6110	Familiarizes students with the art and science of clinical teaching, supervision of clinical services, management of clinical programs, and instruction in communication disorders. Emphasis on clinical problem solving, maximizing student and client feedback, supervisory conferencing, evaluating student and client performance, clinical scheduling/record keeping, and clinical and program efficacy.
010546	ASP 6072	A	Teaching Pedagogy	CSDP 6111	Introduces students to principles and practices of course development and teaching skills in communication sciences and disorders. Emphasizes understanding and integrating course content, targeted levels of learning, specific objectives, instructional strategies, and assessment to enhance the learning experience. Additional topics include motivating students, attributes of good teaching, professional development in teaching, distance education, and team/interdisciplinary teaching.
010547	ASP 6083	A	Multicultural Issues	CSDP 6112	This course will engage students in discussions of multicultural and linguistic variables that must be recognized and applied in teaching, research, and clinical supervision in the field of speech-language pathology and audiology.
010548	ASP 6091	A	Grant Writing Internship	CSDP 6113	Involves the student in the development, completion, and submission of a grant proposal to a private or public funding agency.
011785	AUD 504V	INV	Audiology Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.

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011783	AUD 520V	INV	Topics in Audiology	AUDI 5203	
011444	AUD 520V	INV	Topics in Audiology	AUDI 5203	
011443	AUD 536V	A	Directed Research	AUDI 5361	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted.
011357	AUD 536V(1)	INV	Directed Research	AUDI 5361	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted.
011353	AUD 536V(2)	INV	Directed Research	AUDI 5361	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted.
011545	AUD 536V(3)	INV	Directed Research	AUDI 5361	Research or individual investigation for graduate students. Credits earned may be applied toward meeting degree requirements if the program approves and if a letter grade is given. Repeated registration is permitted.
011435	AUD 540V	A	Audiology Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
011344	AUD 540V(1)	INV	Audiology Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
011354	AUD 540V(2)	INV	Audiology Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
011473	AUD 546V(4)	A	Clin Externship (Practic)	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011384	AUD 546V(5)	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011355	AUD 546V(6)	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011385	AUD 546V(7)	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011386	AUD 546V(8)	INV	Clinical Externship	AUDI 5461	Full-time, applied, supervised practicum experience for graduate students in residence, encompassing the broad scope of diagnostic and rehabilitative audiology clinical practices (4-9 hours). Repeated registration is permitted.
011343	AUD 5013	A	Research Meth. In Com Dis	AUDI 5013	Introduction to research methodologies in audiology and speech pathology. Includes prospectus development, funding sources, data collection and analysis, and professional research writing and editing in communicative disorders and/or speech sciences.
011346	AUD 5023	A	Basic Diag Audiology	AUDI 5023	Principles and techniques for basic audiologic evaluation, including pure tone testing, speech audiometry, and the clinical application of masking, immittance, and otoacoustic emissions. Relevant calibration issues will also be discussed.
011351	AUD 5033	A	Educational Audiology	AUDI 5033	The delivery of audiology services to a school-based population. Includes the development, management, and utilization of hearing and middle ear system screening programs, classroom acoustics, selection and fitting of classroom-based amplification, and federal laws associated with children who have special needs.
011782	AUD 5033	INV	Educational Audiology	AUDI 5033	The delivery of audiology services to a school-based population. Includes the development, management, and utilization of hearing and middle ear system screening programs, classroom acoustics, selection and fitting of classroom-based amplification, and federal laws associated with children who have special needs.
011345	AUD 5041	A	Clinical Laboratory	AUDI 5041	Lab instruction in clinical procedures and methods for evaluation and treatment of clients and care, maintenance and use of technology in audiology clinical practice. Perform evaluation and rehabilitation procedures under faculty supervision.
011347	AUD 5043	A	A&P-Aud&Vestibular Sys. I	AUDI 5043	Detailed information of the anatomy, physiology, electrophysiology, and neurophysiology of the auditory and vestibular systems.
007183	AUD 5051	INV	Practicum	AUDI 5401	Applied, supervised practicum experiences for graduate students that encompass the breadth of the current scope of practice with both adults and children from culturally diverse backgrounds. Repeated registration is permitted.
011348	AUD 5053	A	Acoustics & Psychoacousti	AUDI 5053	Basic information regarding the physics of sound, the measurement of sound and an introduction to the psychoacoustic basis of hearing and its clinical applications.
011439	AUD 5063	A	Auditory Processing	AUDI 5063	Theoretical overview, differential assessment, and treatment of adults and children with auditory processing disorders (APD). Intended to blend theoretical knowledge with practical clinical methods and techniques. Prerequisites: AUDI 5023.
011431	AUD 5073	A	Adv. Diag. Audiology	AUDI 5073	Principles and techniques for advanced audiometric evaluation, including speech audiometry, reflex decay, audiometric special tests and otoacoustic emissions. Report writing and making appropriate recommendations will also be discussed.
011342	AUD 5083	A	Clin. Electrophy.	AUDI 5083	Principles and techniques in the use of evoked potentials to assess auditory function. Includes case studies and analysis of waveforms.
011382	AUD 5103	A	Medical Audiology	AUDI 5103	Introduction to the major pathologies of the auditory and vestibular systems, as well as medical/surgical treatment of those pathologies. Audiologic assessment and management of the disorders will also be discussed. Prerequisites: AUDI 5023 and AUDI 5043
011349	AUD 5113	A	Inst. In Aud/Speech Path	AUDI 5113	Introduction to basic principles of electronics and electrical safety and to demonstrate proper use and care of equipment used in the evaluation and treatment of the auditory and vestibular systems.
012334	AUD 5132	A	Speech Perception	AUDI 5132	Production and perception of speech sounds and the prosodic features of speech. Several theories of speech perception presented and discussed, and the effects of hearing loss on speech production and perception explored.
012335	AUD 5133	A	Inf/Toddler Comm	AUDI 5133	Investigates prelinguistic/early communication and feeding/swallowing development. Multidisciplinary assessment and intervention for infants and toddlers (birth to five) with special needs and their families. Current formal and informal assessment tools and techniques, current intervention strategies, enhancing the therapeutic process across environments, utilizing team collaboration, and facilitating parent-infant interaction.
008755	AUD 5142	INV	Electrophysiology II	AUDI 5143	Principles and techniques in the use of mid- and late-evoked potentials to assess auditory function. Prerequisite: AUDI 5083

011341	AUD 5153	A	Pediatric Audiology	AUDI 5153	Normal auditory development and theoretical, clinical, and practical issues involved in screening, assessment, and management of children with hearing loss. Prerequisite: AUDI 5023
011472	AUD 5162	A	Genetics of Hearing Loss	AUDI 5162	Basic information on the genetic basis of hearing loss and an overview of syndromic and non-syndromic hearing losses. Strategies for referral to genetic counselors and other health care professionals will be included. Prerequisite: AUDI 5103
011442	AUD 5173	A	Counseling in Comm. Disor	AUDI 5173	Principles of counseling for working with persons with communication disorders and their families throughout the life span. Students will review major theories of counseling and will select those most useful for the various settings and practices of audiology and speech pathology.
011433	AUD 5183	A	Outcomes Research/Evidenc	AUDI 5183	Principles of outcomes research, and the levels of evidence supporting clinical practice. Students will understand the principles of critical evaluation of diagnostic procedures and critical evaluation of the evidence for treatment efficacy and effectiveness as well as the importance of practice guidelines that define best practices.
011506	AUD 5192	A	Cultural Competence	AUDI 5192	Knowledge and skills needed by audiologists to provide culturally competent services to diverse clients. Sources of diversity and application of concepts to the field of audiology will be discussed.
011432	AUD 5193	A	A&P of Aud./Vestibular Sy	AUDI 5193	Continuation of the first anatomy and physiology course with greater focus on skull anatomy and on peripheral and central nervous system embryology, neuroanatomy, and neurophysiology. Prerequisite: AUDI 5043
012374	AUD 5201	INV	Topics in Aud:Guided Obse	AUDI 5203	
011383	AUD 5203	A	Topics in Audiology	AUDI 5203	
011440	AUD 5212	A	Hearing Conservation	AUDI 5212	Noise measurement, OSHA requirements, occupational noise management, recreational audiology, and designing and implementing hearing conservation programs for adults and children. Prerequisites: AUDI 5023 and AUDI 5113.
011474	AUD 5222	A	Prof Issues Aud/Spch Path	AUDI 5222	Personal and professional ethical values and their applications to dilemmas encountered in the clinical practices of audiology and speech pathology will be explored with students. Preferred practices and criteria for quality services will be topics for discussion.
011434	AUD 5223	A	Amplification	AUDI 5223	Effective use of hearing aids and auditory training equipment. Includes their component parts, electroacoustic analysis, hearing aid orientation/counseling, and approaches to hearing aid evaluation. Prerequisite: AUDI 5023
011448	AUD 5232	A	AUD: Practice Management	AUDI 5232	Roles of audiologists in meeting the needs of the communicatively impaired. Students will understand preferred practices, criteria for quality services and quality improvement through the evaluation of service delivery models and exploration of the laws affecting service delivery in health care and educational settings.
011436	AUD 5233	A	Ped. Amplification & Inte	AUDI 5233	Advanced strategies specific to pediatric hearing assessment, applicable technologies and management utilizing a family centered approach to intervention.
011525	AUD 5234	INV	Practice Management	AUDI 5232	Roles of audiologists in meeting the needs of the communicatively impaired. Students will understand preferred practices, criteria for quality services and quality improvement through the evaluation of service delivery models and exploration of the laws affecting service delivery in health care and educational settings.
011437	AUD 5243	A	Audiologic Rehab: Adult	AUDI 5243	Principles of audiologic rehabilitation for adults, including diagnosis, counseling, use of amplification and other assistive devices, and communication strategies. Various models of audiologic rehabilitation will be presented. Prerequisite: AUDI 5023
007182	AUD 5253	A	Amplification II	AUDI 5253	Advanced study of amplification systems, including strategies to assess benefit and satisfaction, binaural/bilateral considerations, alternatives to conventional hearing aids, and speech perception issues related to hearing loss. Prerequisite: AUDI 5223
011438	AUD 5263	A	Eval & Treat Balance Sys.	AUDI 5263	Basic information on the evaluation and treatment of balance disorders. Topics: anatomy and physiology of the vestibular, oculomotor, and proprioceptive systems; clinical tests of electronystagmography, dynamic posturography, and rotary chair. Medical and surgical treatments and rehabilitation strategies for vestibular/balance pathologies. Prerequisite: AUDI 5043
011352	AUD 5273	A	Implant Device Tech.	AUDI 5273	Overview of history of cochlear implants, corporation technology in the cochlear-implant industry, and contemporary speech processing strategies for cochlear implants. Discussion of surgeries, audiological evaluation procedures used pre- and post-operatively, patient performance, counseling, and current research topics. Prerequisite: AUDI 5223
011350	AUD 5283	A	Gerontology in Audiology	AUDI 5283	Basic information on the aging process and a discussion of how the aging process affects people with hearing loss. The cognitive, physical, and social aspects of aging will be discussed.
012417	AUD 5323	INV	List for Spkn Lang/Litera	AUDI 5203	
012357	AUDI 5123	A	Adv. Psychoacoustics	AUDI 5123	Advanced information regarding how listeners with normal hearing and those with hearing loss process sound. Topics include: loudness, frequency selectivity, temporal processing, pitch perception, space perception, object/pattern perception, speech perception, experimental design, and signal detection theory. Prerequisites: AUDI 5053
012358	AUDI 5143	A	Adv. Electrophysiology	AUDI 5143	Principles and techniques in the use of mid- and late-evoked potentials to assess auditory function. Prerequisite: AUDI 5083
012359	AUDI 5152	A	Organ/Admin Clinical Prog	AUDI 5152	Organization, administration, and accreditation of school, university, and community programs. Private practice billing procedures. Various and alternative career opportunities including corporate speech pathology practice. Issues related to Medicaid, Medicare and other third party payers, as well as current legislation. Governmental and professional practice issues.
012336	AUDI 5163	A	Aud Bas Spch Lng Interv	AUDI 5163	Auditory-based speech and language intervention with infants and toddlers who are deaf and hard of hearing. Emphasis is on the principles of the normal development sequence of the listening skills, assessment of skills obtained within the hierarchy, and intervention aimed at teaching skills not yet acquired. Auditory based intervention for infants and toddlers requires family participation; therefore, learning styles of parents and caregivers will be discussed.
012337	AUDI 5301	A	Independent Study	AUDI 5301	Prerequisites: Graduate standing and consent of instructor. Directed readings in audiology and/or speech/language pathology, individual discussion with a faculty member. (1-3 hours) May be repeated for up to 6 hours credit.
012360	AUDI 5352	A	Sociolinguistics	AUDI 5352	The linguistic structure of language, nature, and forms of symbolic behavior. Human uses of symbols from various groups and socio-economic levels, particularly in communication. Prerequisite: Courses in phonetics and normal language acquisition.
011560	BINF 5013	A	Reasoning with Data	BINF 6101	This course will provide participants with basic knowledge of the methods used in First Order Logic (FOL) to prepare the ground for using Description Logic (DL) on biomedical data. Theoretical issues fostering the understanding of how DL differs from FOL and why these differences are important will be discussed.

011810	BINF 5023	A	Semantic Web Tech	BINF 6102	The Semantic Web is the future of data management in bioinformatics. A thorough understanding of the Semantic Web is a prerequisite for conducting data intensive research such as translational science. This course introduces graduate students to a wide range of cutting edge Semantic Web technologies in biomedicine.
011207	BIOC 503V	A	Biochemistry Seminar	BIOC 5105	Required every fall and spring semester a student is enrolled in a departmental graduate program. Students presenting a seminar during a semester register for two (2) credit hours. Seminars are developed in consultation with a faculty member. Students whose program does not require a seminar presentation during a particular semester register for one (1) credit hour.
010266	BIOC 504V	A	Biochemical Methods	BIOC 5109	Focuses on the application of biochemistry and molecular biology concepts to quantitative measurements in biological systems. Includes the principles of separation science, electrochemistry, enzyme and metabolic kinetics, spectroscopy, radiochemistry, and immunochemistry. Emphasis is placed on experimental design and data interpretation.
010267	BIOC 506V	A	Research in Biochemistry	BIOC 5104	Practical experience in experimental design and manipulation. A written progress report describing objectives and accomplishments must be discussed with the research director and advisory committee at, or prior to, the time of grade submission.
010274	BIOC 600V	A	Master's Thesis	BIOC 5201	Includes experimental and literature-based research, plus preparation of thesis. Prerequisite: graduate standing and consent of advisory committee.
010275	BIOC 604V	A	Spec Topic in Biochemistry	BIOC 6102	In-depth consideration of topics of current research importance and specialized subjects not covered in general courses. Topics vary by year. Representative topics include: enzymology, proteomics, chromosome dynamics, cancer biology, signal transduction, glycobiology, structure and function of membranes, bioorganic catalysis. May be taken for multiple credit to a maximum of 6 hours.
010277	BIOC 700V	A	Doctoral Dissertation	BIOC 6104	Includes experimental and literature-based research, plus preparation of dissertation. Prerequisite: successful completion of Ph.D. candidacy exam.
010269	BIOC 5103	A	Biochem & Molec Biology	BIOC 5101	A broad presentation of basic biochemistry and molecular biology as background for students in multiple graduate programs in the biomedical field. Prerequisites: Organic chemistry and college algebra.
010273	BIOC 5203	A	Biological Chemistry II	BIOC 5106	An in-depth treatment of topics considered in BIOC 5101 with special emphasis on enzyme structure-function relationships, metabolic integration and regulation, and intracellular signaling. Coursework is based predominantly upon critical analysis of peer-reviewed scientific publications.
010276	BIOC 6021	A	Research Proposal	BIOC 6101	Students in the Ph.D. degree program will write a formal research proposal in the area of their dissertation research. Advice and direction for the preparation of this proposal will be provided by the student's major advisor and advisory committee. Prerequisite: consent of advisory committee.
010464	BIOC 6122	A	Biology of Cancer	BIOC 6103	Molecular and cellular aspects of cancer biology with special emphasis on the acquired capabilities of cancer cells and how this information as translated into innovative treatment strategies. Prerequisites: successful completion of first-year core graduate courses or consent of course director.
010290	BIOM 512V	A	Special Topic in Biometry	BIOM 5108	(On demand) Advanced work in specialized fields such as bioassay, multivariate analysis, time series, etc. Credit, 1 to 3 hours per semester, limit of 9 hours.
011487	BIOM 5013	INV	Biostatistics I	BIOS 5013	Introductory topics in descriptive biostatistics and epidemiology, database principles, basic probability, diagnostic test statistics, tests of hypotheses, sample-size estimation, power of tests, frequency cross-tabulations, correlation, non-parametric tests, regression, randomization, multiple comparisons of means and analysis of variance for one and two-factor experiments.
011488	BIOM 5023	INV	Biostatistics II	BIOS 5212	Multiple regression and linear models for analysis of variance. Experimental Designs with factorial arrangement of treatments, repeated measures, and multiple covariates. Introduction to logistic and non-linear regression. Prerequisite: BIOS 5013.
011489	BIOM 5033	INV	Biostatistics III	BIOS 6223	This course is designed to give students an overview of applied multivariate analysis. Some of the topics include principal component analysis, exploratory/confirmatory factor analysis, path analysis, structural equation model, discriminant analysis and classification, clustering methods and algorithms, Hotelling's T-square, and MANOVA. Prerequisite: Biostatistics II
010289	BIOM 5113	INV	Nonparametric Methods	BIOS 5313	This course will provide an overview of nonparametric techniques with a primary focus on their application to healthcare data. Appropriate techniques for one-sample and multi-sample data will be covered as well as the use of nonparametric methods to assess correlation, independence, and linear relationships. Students will learn when it is more appropriate to use a nonparametric approach instead of the usual parametric tests, and which techniques have been incorporated into popular statistical software. Prerequisite: BIOS: 5013: Biostatistics I.
010292	BIOM 5133	INV	Stat Methods Clin Trials	BIOS 5233	Principles underlying the planning, management, and implementation of modern clinical trials, the application of statistical methods used in the analysis of data from clinical trials, and the interpretation of results. Basic statistical techniques used in design and analysis of Phase I-III single- and multicenter trials. Recommended prerequisites include knowledge of basic statistics, familiarity with SAS software, and knowledge of a clinical area.
011583	CHP 4V01	INV	Topics in Hrelated Prof	CHPI 4201	Topics in the Health Professions
011585	CHP 4V01(2)	INV	Topics in Hrelated Prof	CHPI 4201	Topics in the Health Professions
011586	CHP 4V01(3)	INV	Topics in Hrelated Pr	CHPI 4201	Topics in the Health Professions
011584	CHP 4V02	INV	independent Study in HRP	CHPI 4302	
011587	CHP 4V02(2)	INV	Indep. Study in HRP	CHPI 4302	
011588	CHP 4V02(3)	INV	Indep Study in HRP	CHPI 4302	
012750	CHP 4V10	A	Multicultural Health	CHPI 4310	This course focuses on differences in cultural beliefs about health and illness and models for cross-cultural health and communication. Students will learn the impact that culture plays on health and effective ways to implement health promotion program and program evaluation across cultures. Online course. Sponsoring department: Imaging & Radiation Sciences, Nuclear Medicine Imaging Sciences
012751	CHP 5V10	A	Multicultural Health	CHPI 5310	This course focuses on differences in cultural beliefs about health and illness and models for cross-cultural health and communication. Students will learn the impact that culture plays on health and effective ways to implement health promotion program and program evaluation across cultures. Online course. Sponsoring department: Imaging & Radiation Sciences, Nuclear Medicine Imaging Sciences
011694	CHP 2401	A	Chem for Hlth Prof.	CHPI 2401	A focused introduction to the fundamental and relevant connections between chemistry and life. The course emphasizes the development of problem-solving skills and empowers the student to solve problems in different and applied contexts relating to health and biochemistry. Laboratory included. Online course.

011743	CHP 2402	A	Phys for Health Prof.	CHPI 2402	This course focuses on the physics foundations need for healthcare workers. Includes mechanics; the kinematics and dynamics of masses in translation and rotation; Newton's Laws; gravity; the conservation of energy and momentum; simple harmonic motion; and introduction to wave motion and sound. Laboratory included. Online course.
012765	CHP 2403	A	Bio Sci for Hlth Care Prof	CHPI 2403	Study and application of the concepts of cellular function, microscopic organisms associated with disease, human body systems, genetics, and the environment. Laboratory included.
011575	CHP 3101	A	Legal & Ethical Issues/AH	CHPI 3101	Problems related to legal and ethical issues commonly seen in the professional work place as presented in an interprofessional collaborative practice.
011576	CHP 3102	A	Health Care Mgt Issues/AH	CHPI 3102	Problems related to management issues commonly seen in the professional work place.
011578	CHP 3201	INV	Ethics for Ahlth Prof.	CHPI 3101	Problems related to legal and ethical issues commonly seen in the professional work place as presented in an interprofessional collaborative practice.
011579	CHP 4100	A	Teaching in the Hrelad Pr	CHPI 4100	
011655	CHP 4101	INV	Topics in Health Prof.	CHPI 4201	Topics in the Health Professions
012562	CHP 4133	A	PFCC	CHPI 4133	Intoduction to patient- and family-centered care. Emphasis on the importance of interprofessional teams and patient and family advisors to provide high quality, low cost health care.
012705	CHP 4201	A	Topics in the Hlth. Prof.	CHPI 4201	Topics in the Health Professions
012706	CHP 4202	INV	Ind. Study in Hlth. Prof.	CHPI 4302	
012752	CHP 4398	A	Managerial Leadership	CHPI 4398	Basic principles and practices necessary for effective supervision and leadership in a health care environment. Includes principles and practices in human resource management in health care settings. Online course. Sponsoring department: Respiratory and Surgical Technologies, Respiratory Care
011582	CHP 5100	A	Teaching in Hrelated Prof	CHPI 5100	
012756	CHPI 4285	A	Death & Dying	CHPI 4285	Death and Dying is an interprofessional (IPE) and interdisciplinary course that will explore a wide variety of issues that arise at the end of life. The course looks at the concept of dying, cultural and psychological responses to dying, communication with patients and loved ones about dying, the physiology of dying, as well as legal, ethical, and procedural issues when a person is dying or dead.
011083	CHRP 4101	INV	Topics in the HRP	CHPI 4201	Topics in the Health Professions
009311	CHRP 4102	INV	Independent Study	CHPI 4302	
011191	CHRP 4201	INV	Independent Study	CHPI 4302	
010835	CHRP 4202	INV	Independent Study	CHPI 4302	
003834	CHRP 4302	INV	Independent Study	CHPI 4302	
011395	CHRP 4502	INV	Independent Study	CHPI 4302	
015189	CSDP 6201	A	UCA: Dissertation	CSDP 6201	Completion of an original research project in collaboration with the dissertation advisor and committee. Successful completion of an oral defense to the dissertation committee. Continual enrollment is required until all related requirements are completed.
011138	CYTO 4126	A	Molecular Diagnostics Lab	CYTO 4126	Emphasis on basic molecular techniques such as DNA extraction and quantitation, restriction enzyme digestion, polymerase chain reaction, and agarose gel electrophoresis.
000192	CYTO 4221	A	Lab Oper.	CYTO 4221	Principles of management, supervision, and laboratory safety. A seminar and practicum approach will be utilized with an emphasis on problem-solving and ethical practice as related to cytopathology
011137	CYTO 4225	A	Molecular Diagnostics	CYTO 4225	Explores the use of molecular techniques for the diagnosis of disease. Includes tests for genetic disorders (both inherited and acquired); infectious diseases, such as HIV and hepatitis C; tissue histocompatibility for organ transplants; and human identity testing.
000188	CYTO 4313	A	Gyn Cyto II	CYTO 4313	Histopathology and cytopathology of endometrial hyperplasia; adenocarcinoma of the endocervix and endometrium; benign and malignant lesions of the tubes, ovaries, vulva, and vagina. Radiation biology, irradiation and chemotherapy induced atypia. Prerequisite: CYTO 4412.
008622	CYTO 4331	A	Comprehensive Cyto	CYTO 4331	Discussions of the cytology of all major body sites, includes computer image reviews. Emphasis on preparation for comprehensive examinations in cytotechnology.
000186	CYTO 4411	A	Intro CytoTech	CYTO 4411	Introduction to cell morphology, cell cycle, and principles of cytopreparation. Emphasis on the embryology, anatomy, histology, and cytopathology of the female genital tract under normal conditions.
000187	CYTO 4412	A	Gyn Cyto I	CYTO 4412	Histopathology and cytopathology of inflammation, benign proliferative reactions, pre-malignant lesions, carcinoma in situ, microinvasive, and invasive squamous carcinoma. Prerequisite CYTO 4411.
000195	CYTO 4424	A	Cyto Intern I	CYTO 4424	Supervised clinical internship within an accredited cytology laboratory with an emphasis on pre-screening cytopathology specimens from all body sites. Students may also participate in observing fine needle aspiration biopsies. Prerequisite: CYTO 4623.
000196	CYTO 4431	INV	Cyto Intern II	CYTO 4531	Supervised clinical internship within an accredited cytology laboratory with an emphasis on pre-screening cytopathology specimens from all body sites. Students may also participate in observing fine needle aspiration biopsies. Prerequisite: CYTO 4424
007367	CYTO 4531	A	Cytology Internship II	CYTO 4531	Supervised clinical internship within an accredited cytology laboratory with an emphasis on pre-screening cytopathology specimens from all body sites. Students may also participate in observing fine needle aspiration biopsies. Prerequisite: CYTO 4424
000190	CYTO 4614	A	Non Gyn Cyto I	CYTO 4614	Cytopathology of respiratory, gastrointestinal, and urinary tracts. Includes methods of obtaining and processing specimens, microbiology, and the role of cytology in evaluating lung, gastrointestinal tract, and urinary tract diseases. Continuation of cytopreparation in prescreening of the female genital tract. Prerequisite: CYTO 4313
000191	CYTO 4623	A	Non Gyn Cyto II	CYTO 4623	Cytopathology of body fluids and fine needle aspirations from multiple body sites. Emphasis on anatomy, histology, and methods of specimen procurement, cytopreparation techniques, and histopathologic correlations. Prerequisite: CYTO 4614
011401	DHY 4X11	A	Independent Study	DHYG 4411	
000892	DHY 2116	A	Oral Embry/Histlgy	DHYG 2116	Development and composition of tissues of the oral cavity and related structures.
012339	DHY 2119	A	DH Seminar	DHYG 2119	Current scientific literature related to topics in dental hygiene and oral health will be examined to enhance knowledge of the dental hygiene process of care.
000893	DHY 2215	A	Oral Anatomy	DHYG 2215	Anatomy of dental structures.
000894	DHY 2217	A	Dntl Radgrphy I	DHYG 2217	Introduction to radiographic essentials. Emphasis on safety precautions, paralleling technique, and processing of exposed film.
000895	DHY 2221	INV	Dntl Hyg Clin I	DHYG 2521	Clinical application of dental hygiene techniques. Emphasis on patient medical history, aseptic techniques, patient assessment procedures, instrumentation, patient management, professional behavior, and instrument sharpening. Prerequisite: DHY 2312, 2413, 2217.
000896	DHY 2223	A	Dntl Radgrphy II	DHYG 2223	History and development of radiography, biological effects of exposure, extraoral techniques, and interpretation of processed film. Prerequisite: DHYG 2217

011072	DHY 2312	A	Dntl Hyg Thy	DHYG 2312	Orientation to preclinical procedures. Emphasis on prevention of disease transmission, examination techniques, medical histories, etiology of plaque, calculus, and periodontal disease.
000899	DHY 2314	A	Hum Anat/Phys I	DHYG 2314	Functions of the major organ systems. Emphasis on physiology, microanatomy, and macroanatomy.
010900	DHY 2321	INV	Dental Hygiene Clinic I	DHYG 2521	Clinical application of dental hygiene techniques. Emphasis on patient medical history, aseptic techniques, patient assessment procedures, instrumentation, patient management, professional behavior, and instrument sharpening. Prerequisite: DHY 2312, 2413, 2217.
000902	DHY 2327	A	Dental Materials	DHYG 2327	Restorative and impression materials and abrasive agents. Includes physical properties and manipulation variables.
011609	DHY 2413	INV	DH Pre-Clinic	DHYG 2513	Orientation and clinical application of instruments and practical experience in performing the oral prophylaxis.
000904	DHY 2425	A	Hum Anat/Phys II	DHYG 2425	Continuation of Human Anatomy and Physiology I. Includes anatomy of the head and neck with emphasis on osteology, neurology, and the circulatory system.
012676	DHY 2513	A	DHY Preclinic	DHYG 2513	Orientation and clinical application of instruments and practical experience in performing the oral prophylaxis.
011139	DHY 2521	A	Dental Hygiene Clinic I	DHYG 2521	Clinical application of dental hygiene techniques. Emphasis on patient medical history, aseptic techniques, patient assessment procedures, instrumentation, patient management, professional behavior, and instrument sharpening. Prerequisite: DHY 2312, 2413, 2217.
012675	DHY 3119	A	Dental Hygiene Seminar II	DHYG 3119	Continuation of DHY 2119 Dental Hygiene Seminar I. Current scientific literature related to topics in dental hygiene and oral health will be examined to enhance knowledge of the dental hygiene process of care.
000905	DHY 3145	INV	Dntl Hyg Clin-Smr	DHYG 3245	Provides for continuous clinical experience to enhance skills and promote clinical competence. Offered in summer term only.
000907	DHY 3243	A	Ethics, Juris and Pract Mgmt	DHYG 3243	Emphasis on ethical issues, a framework for ethical decision making, the American Dental Hygienists' Association Code of Ethics, ethically based professional responsibilities and legal principles guiding dental care delivery. Dental hygiene and its relationship to dental practice management and the business of dentistry. Includes procedures for patient management, scheduling, record keeping, economic considerations and marketing of dentistry and dental hygiene.
012743	DHY 3244	A	Comm Dent II	DHYG 3244	Continuation of DHY 3344 dental health education and public health. Emphasis on the role of the hygienist in promoting oral health in the private office and community, education methods, biostatistics, and epidemiology. DHY 3245 will incorporate concepts from DHY 3344 to include a community project with data collection, analysis and evaluation.
012447	DHY 3245	A	DH Summer Clinic	DHYG 3245	Provides for continuous clinical experience to enhance skills and promote clinical competence. Offered in summer term only.
000908	DHY 3246	A	Local Anesthesia	DHYG 3246	Introduces principles related to local anesthetic injections and provides for the clinical application of techniques. Reviews related anatomical, neuro-physiological, and pharmacological considerations. Prevention and treatment of local and systemic complications of local anesthesia are stressed.
000909	DHY 3332	A	Pharmacology	DHYG 3332	Physiologic effects of medications. Emphasis on drugs used by the dental profession.
012403	DHY 3333	A	Nutrition	DHYG 3333	Introduction to the science of nutrition and its oral relevance. Emphasis on preventive dentistry and counseling for dental disease prevention.
000910	DHY 3334	INV	Pathology	DHYG 3434	This course includes the basic concepts of pathology; including inflammation, oral lesions, and changes due to microorganisms, neoplasms, nutrition, and hormonal influence.
000911	DHY 3335	A	Periodontology	DHYG 3335	Periodontal diseases and the role of the dental hygienist in their diagnosis, prevention, and treatment.
000912	DHY 3342	A	Mgt Pt w/ Sp Nds	DHYG 3342	Management techniques for patients with a variety of chronic and disabling conditions and diseases. Includes topics and demonstrations related to head and neck cancer, autoimmune disorders, neurologic and sensory disorders, and management of older adult patients.
011292	DHY 3343	INV	Prac. Management	DHYG 3243	Emphasis on ethical issues, a framework for ethical decision making, the American Dental Hygienists' Association Code of Ethics, ethically based professional responsibilities and legal principles guiding dental care delivery. Dental hygiene and its relationship to dental practice management and the business of dentistry. Includes procedures for patient management, scheduling, record keeping, economic considerations and marketing of dentistry and dental hygiene.
000934	DHY 3344	A	Community Dentistry I	DHYG 3344	Dental health education and public health. Emphasis on the role of the hygienist in promoting dental health in the private office and community, education methods, biostatistics, and epidemiology.
012404	DHY 3434	A	Pathology	DHYG 3434	This course includes the basic concepts of pathology; including inflammation, oral lesions, and changes due to microorganisms, neoplasms, nutrition, and hormonal influence.
000936	DHY 3531	A	Dntl Hyg Clin II	DHYG 3531	Continuation of Summer Clinic. Includes increased competency in instrumentation and patient management skills on periodontally involved patients. Prerequisite: DHY 2521, DHY 2223, and DHY 3245.
000915	DHY 3541	A	Dntl Hyg Clin III	DHYG 3541	Continuation of Dental Hygiene Clinic II. Includes increased competency in the use of cures on periodontally involved patients, root planing, subgingival curettage, use of the ultrasonic scaler, and time management. Prerequisite: DHY 2223, DHY 3531.
011402	DHY 4211	INV	Independent Study	DHYG 4411	
011403	DHY 4311	INV	Independent Study	DHYG 4411	
007145	DIET 5073	A	Prac in Clin Diet	DIET 5073	Supervised learning experience in clinical dietetics designed to meet specific objectives and achieve identified clinical nutrition competencies. Experiences scheduled in a variety of health care and community settings. This course is an elective in the MSCN program and a required core course in the internship program.
007146	DIET 5083	A	Prac in Adm Diet	DIET 5083	Supervised learning experiences in administrative dietetics to meet specific objectives and achieve identified management competencies. Experiences scheduled in a variety of units within health care facilities. This course is an elective in the MSCN program and a required core course in the internship program.
007147	DIET 5112	A	Nutritional Counsel	DIET 5112	Provides an understanding of the methods, strategies, and evaluation of nutrition and diet counseling to modify eating habits for health promotion and increase compliance with therapeutic regimens. Consideration of learning styles, nutritional anthropology, and instructional technology effectively applied in the health care setting. Prerequisite: NUTR 5033 or NUTR 5333: Advanced Clinical Nutrition or equivalent; and consent of faculty.
007148	DIET 5161	A	Adv Nutrition Sem	DIET 5161	Graduate seminar of important current research in clinical nutrition to reflect content, application to clinical practice, and study parameters and design. Students will read original papers, write critiques, and make presentations for discussion.
011261	DMS 2310	A	Basic Patient Care	DMSO 2310	Discussion of common patient care theories, procedures, and techniques emphasizing the physical and psychological wellness of the patient during diagnostic imaging procedures. Ethical and legal principles are included.

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010749	DMS 2321	INV	Basic Patient Care	DMSO 2310	Discussion of common patient care theories, procedures, and techniques emphasizing the physical and psychological wellness of the patient during diagnostic imaging procedures. Ethical and legal principles are included.
000917	DMS 3211	A	Sectional Anatomy	DMSO 3211	A study of sectional anatomy of the transverse, longitudinal, and coronal planes are included with an emphasis on the organs of sonographic interest. Correlation with other imaging procedures will be emphasized.
000918	DMS 3221	A	Gyn Sonography	DMSO 3221	Gynecological anatomy and physiology are the foci of this course. Laboratory tests, signs and symptoms of gynecologic disease will be discussed. Scanning techniques and protocols will be included.
000919	DMS 3222	A	Adv Physics	DMSO 3222	Lectures and related demonstrations covering advanced areas of ultrasonic propagation principles, transducer parameters, interactive properties of ultrasound with human tissues, possible biologic effects, advanced equipment types, instrumentation, and quality control procedures. An introduction to Doppler physics is included.
000920	DMS 3312	A	Intro Physics	DMSO 3312	Lectures and related laboratory exercises covering the areas of ultrasonic propagation principles, transducer parameters, interactive properties of ultrasound with human tissues, possible biologic effects, basic equipment types, instrumentation, and quality control procedures.
000921	DMS 3313	A	Abdmnl Sonography	DMSO 3313	Clinical applications in the abdomen include a review of gross abdominal anatomy, physiology, and pathology of every organ imaged in the abdomen. Pertinent laboratory tests as well as signs and symptoms related to disease processes of each organ will be discussed. Basic scanning techniques and protocols will be included.
000922	DMS 3321	A	Songrphc Appl:OB	DMSO 3321	Normal maternal changes and fetal development throughout gestation are reviewed. Embryonic and fetal measurements, anatomy, and anomalies of the first, second and third trimesters are studied. Scanning techniques and protocols are included.
000924	DMS 3514	A	Clin Pract I	DMSO 3514	Supervised clinical experience emphasizing sonographic procedures of the abdomen.
000925	DMS 3541	A	Clin Pract III	DMSO 3541	Continuation of clinical course work at the intermediate skill level. Prerequisite: DMSO 3824.
000926	DMS 3824	A	Clin Pract II	DMSO 3824	Supervised clinical experience at an intermediate level emphasizing sonographic procedures of the gynecologic system. Prerequisite: DMSO 3514.
000927	DMS 4241	A	Adv OB/Gntcs/Path	DMSO 4241	Advanced topics in obstetrical sonography and fetal disease, including an introduction to genetics and the range of pathologies related to genetics and teratogenesis.
000928	DMS 4242	A	Songrphc Conf	DMSO 4242	Specialists in the field will present special lectures focusing on specific organs or disease entities. Historical and new developments in techniques or applications of ultrasound and safety are discussed.
000929	DMS 4251	A	Cardiovas Pathophys	DMSO 4251	An advanced study of the structure, function, and pathologies of vascular and cardiac anatomy of sonographic interest.
000931	DMS 4261	A	Current Iss Hlth Care	DMSO 4261	A discussion of the moral, ethical, economical, and legal issues that confront sonographers as they practice in the dynamic health care environment.
004697	DMS 4300	A	Intro to Health Care Mgmt	DMSO 4300	This course is an introduction to the functions of management in health care organizations. The concepts of management, supervision, and leadership are included.
008799	DMS 4301	A	HlthCr Sys in America	DMSO 4301	This course is an introduction to the health care services provided within the United States of America. The evolution, structure, financing, and regulation of the nation's health care institutions will be covered. In addition, ethics and legal issues in medicine will be discussed.
009915	DMS 4303	A	Neurosonography	DMSO 4303	This course is a study of fetal/pediatric brain and spinal cord anatomy. Anomalies of the fetal/pediatric brain and spinal cord are discussed. Scanning techniques and protocols used to diagnose pathology in these structures are also included.
000932	DMS 4342	A	Int Card/Vas Sonog	DMSO 4342	This course is an introductory study of color Doppler imaging and spectral Doppler waveform analysis related to blood flow within the cardiac and vascular system and the abdominal, pelvic, fetal, and superficial organs. Interpretation of ECG recordings is also included.
000938	DMS 4352	A	Dopp Sono/Adv Hemodyn	DMSO 4352	A discussion of Doppler sonography that includes basic ultrasound physics and instrumentation, continuous-wave Doppler, pulsed Doppler, and duplex-triplex scanning with emphasis on the analysis of Doppler spectral waveforms and interpreting color Doppler images. An in-depth analysis of normal cardiac and vascular hemodynamics and the effects of pathology on the flow of blood within the heart and throughout the vascular circulation are presented.
000939	DMS 4353	A	Intermed Vas Sonograph	DMSO 4353	This intermediate-level vascular course includes arterial and venous anatomy, vascular imaging protocols, basic scanning techniques, and transducer manipulation. B-Mode imaging, color flow image interpretation, and spectral Doppler waveform analysis will be discussed. Vascular disease and its effect on blood flow will be covered.
000940	DMS 4354	A	Intermed Cardiac Sonograp	DMSO 4354	Cardiac anatomy, physiology, and hemodynamics will be the focus of this course. Laboratory tests, and signs and symptoms of cardiac disease will be discussed. Scanning techniques and protocols for pediatric and adult procedures will be included.
008794	DMS 4363	A	Adv Vascular Sonography	DMSO 4363	Advanced study of vascular anatomy and physiology are the foci of this course. Symptoms of venous and arterial diseases are discussed. Scanning techniques and protocols used to diagnose vascular pathology are also included.
007178	DMS 4364	A	Adv Cardiac Sonograph	DMSO 4364	
000941	DMS 4843	A	Clin Pract IV	DMSO 4843	Supervised clinical experience at the intermediate level emphasizing adult cardiac and vascular examination procedures. Prerequisite: DMSO 3541.
000942	DMS 4854	A	Clinical Pract V	DMSO 4854	Advanced practice supervised clinical experience emphasizing vascular or cardiac sonographic procedures. Prerequisite: DMSO 4843.
010945	ECSE 6300	A	UCA: PhilHistLeg Aspt Spec Ed	ECSE 6300	This course examines historical and current trends of special education services, program philosophies, and program practices. Legal foundations and issues, special education terminology, and professional roles for general education and special education teachers are addressed. In addition, the practice of collaboration among professionals in providing appropriate services for children and students with disabilities are examined. This course is offered in a distance education setting, which includes synchronous and asynchronous sessions. An occasional face-to-face meeting may be required. This course is required for completion of the MSE and the GC/endorsement in Special Education K-12 and for the B-K endorsement. This course may also be approved for other related disciplines.
011253	ECSE 6302	A	UCA: Med and Ed Aspects	ECSE 6302	
011004	ECSE 6306	A	UCA: Fam/Sch/Comm Partners	ECSE 6306	
011270	ECSE 6350	A	UCA: Collaborative Teaching	ECSE 6350	

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011251	ECSE 6365	A	UCA: Ed Prog Students EBD	ECSE 6365	
011255	ECSE 8308	A	Advanced Statistics	ECSE 8308	
011075	EDFN 7304	A	UALR: Basic Stats	EDFN 7304	
011499	EDFN 7330	A	UALR: Human Development	EDFN 7330	Prerequisite: graduate standing. A lifespan perspective that addresses cognitive, physical, social and emotional development from birth through late adulthood. Special emphasis on developmental factors that effect schooling (P-12).
011475	EDFN 7373	A	UALR: Qual Rsch Methods	EDFN 7373	
011194	EDFN 8305	A	UALR: Intermediate Statistics	EDFN 8305	Prerequisite: EDFN 7304. A second course in statistics that covers the more complex analyses used in education and data- driven decision making. Topics include simple and multiple linear regression, one- and two-factor fixed factor analysis of variance, random and mixed model analysis of variance, randomized block, hierarchical analysis of variance, and analysis of covariance. Emphasis is on further understanding the logical bases of statistical tests of significance, selecting appropriate data analysis techniques, and using statistical software and interpreting its output.
011332	EDFN 8308	A	UALR: Advanced Statistics	EDFN 8308	Prerequisites: EDFN 8305. An advanced course in statistics that covers complex analyses used in education and data-driven decision making. Topics include multivariate analysis of variance, loglinear analysis, discriminate function, canonical correlation, and an introduction to structural equation modeling and confirmatory factor analysis. Emphasis is placed on providing solid skill in the use of the major statistical software packages for the purposes of program evaluation or other advanced analysis requirements.
011596	EDFN 8330	A	UALR: Mixed Research Design	EDFN 8330	
000944	EMS 1118	INV	Clinical Practicum I	EMSC 1211	Supervised rotations through selected clinical and field areas. Emphasis on developing and improving skills which reinforce classroom instruction.
000945	EMS 1119	INV	Clinical Practicum II	EMSC 1222	Supervised rotations through selected clinical and field areas. Emphasis on developing and improving skills which reinforce classroom instruction.
000946	EMS 1120	INV	Clinical Practicum III	EMSC 1233	Supervised rotations through selected clinical and field areas. Emphasis on developing and improving skills which reinforce classroom instruction.
008802	EMS 1122	A	EKG Interpretation	EMSC 1122	This course covers cardiac anatomy and physiology with particular attention to cardiac electrical activity and the interpretation of electrocardiograms.
000948	EMS 1201	A	Patient Assessment	EMSC 1201	History taking, physical examination techniques, patient assessment in the field, clinical decision making, communications, and documentation. Emphasis on detecting, defining, and describing normal and pathological conditions
000949	EMS 1202	INV	Med Emergencies I	EMSC 1410	Recognition, pathophysiology, and management of patients with respiratory, neurologic, endocrine, anaphylactic, nontraumatic abdominal, and urologic emergencies
000950	EMS 1203	INV	Life Span Dev I	EMSC 1334	Recognition, pathophysiology, and management of emergencies among gynecologic, obstetric, neonatal, pediatric, and geriatric patients.
000951	EMS 1204	INV	Assessmt-Bsd Mgmt I	EMSC 2250	Integration of assessment findings in order to formulate a field impression and implement a treatment plan for those with common physical, mental, and social complaints, chronic care problems, and financial challenges; abuse victims; and assault victims.
008801	EMS 1210	A	Clinical Preparation	EMSC 1210	Prepares the student to care for patients in the clinical area by teaching the principles of intravenous access, medication administration, and airway management.
011358	EMS 1211	A	Clinical Practicum I	EMSC 1211	Supervised rotations through selected clinical and field areas. Emphasis on developing and improving skills which reinforce classroom instruction.
011427	EMS 1222	A	Clinical Practicum II	EMSC 1222	Supervised rotations through selected clinical and field areas. Emphasis on developing and improving skills which reinforce classroom instruction.
012734	EMS 1231	A	AEMT Competencies	EMSC 1231	Includes the core knowledge and skill set that an entry level Advanced Emergency Medical Technician must demonstrate. Emphasis on common and/or critical medical, traumatic, and age-related emergency interventions.
011449	EMS 1233	A	Clin Practicum III	EMSC 1233	Supervised rotations through selected clinical and field areas. Emphasis on developing and improving skills which reinforce classroom instruction.
000952	EMS 1311	A	Anatomy/Physiology	EMSC 1311	
007097	EMS 1320	A	Pharmacology	EMSC 1320	Addresses the basic principles of pharmacology, including the history of pharmacology; drug regulation, nomenclature, and classification; and pathophysiological principles of drug uptake, utilization, and elimination in the body. This course will also cover basic medical terminology.
007098	EMS 1334	A	Lifespan Development	EMSC 1334	Recognition, pathophysiology, and management of emergencies among gynecologic, obstetric, neonatal, pediatric, and geriatric patients.
008635	EMS 1340	A	Trauma Management	EMSC 1340	Trauma systems, mechanism of injury, pathophysiology, management, and treatment of traumatic injuries including hemorrhage, burns, thoracic trauma, soft tissue injury, head injury, spinal injury, abdominal injury, and musculoskeletal injury.
000953	EMS 1401	INV	Intro Emer Med Sci	EMSC 1602	This course includes all of the skills necessary for the individual to provide emergency medical care at a basic life support level with an ambulance service or in another specialized area. Completing this course fulfills all of the requirements for the students to challenge the Arkansas and National Registry of Emergency Medical Technicians certification examination.
000954	EMS 1402	INV	Cardiovascular Care I	EMSC 2501	Utilization of the assessment findings to formulate a field impression, to implement and evaluate the management plan for the patient experiencing a cardiac emergency. Includes Advanced Cardiac Life Support (ACLS) didactic.
011466	EMS 1410	A	Med Emer I	EMSC 1410	Recognition, pathophysiology, and management of patients with respiratory, neurologic, endocrine, anaphylactic, nontraumatic abdominal, and urologic emergencies
010750	EMS 1602	A	Introduction to EMT	EMSC 1602	This course includes all of the skills necessary for the individual to provide emergency medical care at a basic life support level with an ambulance service or in another specialized area. Completing this course fulfills all of the requirements for the students to challenge the Arkansas and National Registry of Emergency Medical Technicians certification examination.
011360	EMS 2159	A	Paramedic Competencies	EMSC 2159	This capstone course combines preparation and evaluation of significant entry level paramedic competencies including psychomotor and cognitive skills. Emphasis is placed on all psychomotor skills and cognitive aspects of the national professional credentialing examination.
000959	EMS 2210	A	Fndtns of Paramed	EMSC 2210	A study of the roles and responsibilities within an EMS system, the importance of personal wellness, implementation of injury prevention activities, understanding legal issues, ethics, and principles of therapeutic communications.
000960	EMS 2220	A	Pathophysiology	EMSC 2220	Application of the general concepts of pathophysiology for the assessment and management of emergency patients. Pharmacological interventions are emphasized.

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000961	EMS 2230	INV	Med Emer II	EMSC 2310	Recognition, pathophysiology, and management of patients with toxicologic, substance abuse, hematologic, environmental, infectious, psychiatric, and behavioral emergencies.
008634	EMS 2250	A	Assess Bsd Mgmt	EMSC 2250	Integration of assessment findings in order to formulate a field impression and implement a treatment plan for those with common physical, mental, and social complaints, chronic care problems, and financial challenges; abuse victims; and assault victims.
011361	EMS 2310	A	Medical Emergencies II	EMSC 2310	Recognition, pathophysiology, and management of patients with toxicologic, substance abuse, hematologic, environmental, infectious, psychiatric, and behavioral emergencies.
011359	EMS 2319	INV	Medical Emergencies II	EMSC 2310	Recognition, pathophysiology, and management of patients with toxicologic, substance abuse, hematologic, environmental, infectious, psychiatric, and behavioral emergencies.
000964	EMS 2431	A	Paramed Fld Intrnshp	EMSC 2431	Supervised experience in prehospital care settings. Emphasis on the application of previous course work in the field environment.
011184	EMS 2501	A	Cardiovascular Care	EMSC 2501	Utilization of the assessment findings to formulate a field impression, to implement and evaluate the management plan for the patient experiencing a cardiac emergency. Includes Advanced Cardiac Life Support (ACLS) didactic.
011732	EMS 3301	A	Found. of EMS Systems	EMSC 3301	An overview of EMS as related through a review of the historical development through the modern day implementation. Includes an overview of federal rules and regulations as well as the planning and operations of typical EMS configurations systems including, methods of service and funding options.
011700	EMS 3302	A	EMS Oper Mgmt	EMSC 3302	This course focuses on the role that operations management plays in the service industry through an emphasis on the principles and methodologies applicable to solving problems within the industry.
011791	EMS 3303	A	Ldrshp Devlpmnt	EMSC 3303	A comprehensive view of the historical development of leadership theories and models and how they can be applied to emergency services.
011666	EMS 3304	A	Community Paramedic	EMSC 3304	This course introduces a new direction and expanded role for EMS. The community paramedic adapts to the specific needs and resources of each community more broadly in the areas of primary care, public health, disease management, mental health, and dental care. This course emphasizes the role, advocacy, outreach, and community assessment for the community paramedic. Includes Modules 1 & 2 of Community Paramedic curriculum.
012565	EMS 4108	INV	Directed Internship	EMSC 4408	
012566	EMS 4208	INV	Directed Internship	EMSC 4408	
012361	EMS 4301	A	Human Res. Mgmt.	EMSC 4301	A general overview of the basic concepts and methods of human resources relevant in making decisions within any organization.
011701	EMS 4303	A	Fdn. Of Hlth Prof Mgmt	EMSC 4303	Introduction to the methods and materials of community, and professional staff education; project development is required. This course satisfies all requirements toward Arkansas licensure as an EMS Professional Educator. This course does require some actual face to face classroom interaction. (Prerequisite as an Arkansas EMT for two consecutive years).
011792	EMS 4304	A	Sfty/Rsk Mgmt	EMSC 4304	A discussion of the laws and regulations that governs the prevention and control of employee safety and health and the management techniques involved.
011858	EMS 4305	A	Special Operations	EMSC 4305	Discusses the role that EMS providers play in special operations events such as mass casualty incidents, fire rehabilitation, extended operations, wilderness EMS, sporting events, technical rescues, hazardous materials, tactical events, and terrorism.
011667	EMS 4306	A	Community Paramedic Strat	EMSC 4306	This course emphasizes the strategies to identify community health needs, developing strategies to meet those needs and building community capacity. Includes Modules 3 & 4 of Community Paramedic Curriculum. Pre or co-requisite: EMSC 3304
011733	EMS 4307	A	Current Topics in EMS	EMSC 4307	This seminar course is designed to discuss current problems in EMS systems. Particular attention will be paid to evidence-based clinical medicine, EMS management issues, and public perceptions of EMS.
012364	EMS 4308	INV	Directed Internship	EMSC 4408	
012363	EMS 4316	A	Comm. Paramed. Pract.	EMSC 4316	Directed clinical experiences in community health areas. (Pre or Corequisite EMSC 4306 and credentialed as a paramedic or advanced level healthcare professional)
011857	EMS 4330	A	Intro to Research	EMSC 4330	An introduction to the methods of scientific research to include research design and statistical analysis. Critical review of the components of research reports will be performed to include definition of the problem, review of the literature, research design, data analysis, and results.
012371	EMS 4408	A	Directed Internship	EMSC 4408	
012367	EMSC 4320	A	Crit. Care Paramed. Pract	EMSC 4320	Directed field and clinical experiences for the critical care paramedic. (Pre or Corequisite EMSC 4610 and credentialed as a paramedic or advanced level healthcare professional)
012366	EMSC 4610	A	Crit. Care Paramedic	EMSC 4610	This advanced course involves the complicated technological care for emergent patients with complex multisystem problems. Significant patient care experience as a paramedic or advanced level healthcare professional is required.
011753	EPI 982V	INV	Directed Research Studies	EPID 6700	The Directed Research Studies course provides the student with hands-on experience in scientific and public health practice research during their first year in the program. Working with a faculty advisor, the student will gain experience in: completing literature searches in order to frame research questions; scientific writing, including the preparation and submission of grants and manuscripts; developing and implementing research protocols; obtaining IRB assurance for research projects; database management and quality control of data; data analysis; working on collaborative research and writing teams; and the responsible conduct of research. Students will spend a minimum of 200 contact hours each semester (maximum of 300 hours per semester) and will enroll in 6 credit hours (3 credit hours in each of 2 consecutive semesters). Prerequisites: Enrollment as a doctoral student in the PhD Program in Epidemiology.
011761	EPI 5173	INV	Epi I	EPID 5112	This course, the first of the sequence offered by the department of epidemiology, introduces the principles and methods of epidemiologic research and practice. It presents an overview of the history of epidemiology and the current thinking, methods, , measures of morbidity and mortality, disease transmission and risk, major epidemiologic study designs, measures of association, sources of error including bias, confounding and interaction, evaluation of screening tests, inference and causality, with emphasis on practical topics such as public health surveillance and outbreak field investigations.

011762	EPI 5183	INV	Epi II	EPID 5322	This is an intermediate level course in epidemiologic theory and methodology that prepares students who have completed the basics of Epidemiology to the study of advanced methods. Epidemiology II builds on the concepts, methods, and strategies introduced in Epidemiology I. The course focuses on methodologic tools and skills needed to conduct or evaluate epidemiologic research; emphasizes on tools and skills to assess study designs, data collection, threats to study validity and reliability, biases e.g. confounding and heterogeneity of effects. Prerequisites: EPID 5112: Epidemiology I, EPID 5110: Epidemiology I Lab, BIOS 5013: Biostatistics I.
011795	EPI 5223	INV	Epi of Chronic Diseases	EPID 5326	This course will provide an overview of the history, epidemiology, and control of various infectious diseases. A selective overview of immunology and molecular diagnostic methods will be provided as a foundation for later lectures. Major human pathogens will be addressed within the conceptual framework of foodborne, waterborne, and vector-borne diseases, sexually transmitted diseases, respiratory diseases, parasitic diseases, and vaccine preventable diseases. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II; or permission of the instructor.
011789	EPI 5371	INV	Epi II Lab	EPID 5323	This is an intermediate level course in epidemiologic theory and methodology that prepares students who have completed the basics of Epidemiology to the study of advanced methods. This course is designed to integrate methods introduced in Epidemiology II and its application to scenarios. Solidifies understanding of concepts in Epidemiology II by working through complex exercises and rigorous critiquing of studies and designing own studies given real life scenarios and their challenges researchers face. Prerequisites: EPID 5112: Epidemiology I, EPID 5110: Epidemiology I Lab, HPMT 5013: Biostatistics I, EPID 5322 Epidemiology II. Mandatory for students in the Epidemiology track. Concurrent or previous enrollment in BIOS 5212: Biostatistics II or approved equivalents.
011796	EPI 5483	INV	Infectious Disease Epi	EPID 5326	This course will provide an overview of the history, epidemiology, and control of various infectious diseases. A selective overview of immunology and molecular diagnostic methods will be provided as a foundation for later lectures. Major human pathogens will be addressed within the conceptual framework of foodborne, waterborne, and vector-borne diseases, sexually transmitted diseases, respiratory diseases, parasitic diseases, and vaccine preventable diseases. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II; or permission of the instructor.
011797	EPI 5553	INV	Cancer Epidemiology	EPID 5332	This course is designed to provide an overview of the epidemiology of common cancers as well as methodologic issues in etiologic research and cancer screening. Emphasis will be placed on risk factors that can be modified for cancer control and prevention. The course will address: geographic variation and temporal trends in cancer, cancer burden, biology of normal and cancer cells, biomarkers, selected risk factors (e.g., occupation, tobacco, alcohol, radiation, viruses, immunity, hormones, and genetic factors), and screening objectives, recommendations, and controversies. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II; or permission of the instructor.
011760	EPI 5673	INV	Epi III	EPID 5334	Extends consideration of concepts, methods, and strategies introduced in Epidemiology I and II. The course focuses on tools and skills related to data analysis and interpretation. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II. (EPID XXXX: Data Management and Programming for Epidemiologists or BIOS 5213: Application of Microcomputers to Data Management and Analysis).
011755	EPI 5862	INV	Epi I Lab	EPID 5110	Epidemiologists gather, analyze, interpret, evaluate and present information which is meant for use in decisions about how to prevent disease and improve population health. This course is designed to be taken with PBHL 5173: Epidemiology I and it aims to provide experience in the application of basic techniques used in epidemiology research and practice. Emphasis is placed on calculation and interpretation of measures of morbidity, mortality, and association; disease transmission and risk; major epidemiologic study designs; and evaluation of screening tests.
012458	EPI 9001	INV	Pedagogy Training	EPID 6001	This course provides doctoral level (PhD and DrPH) students with training and practice in the methods and principles of teaching. This course is one credit hour and has two components which must be completed to earn the credit: 1) a weekly seminar course, and 2) lectures in three separate courses taught within the COPH MPH program.
011767	EPI 9042	INV	Surveillance	EPID 6121	Surveillance is a methods course focused on the principles and methods employed in the surveillance of diseases, conditions, and events of public health concern. Students will learn about: the selection of diseases, conditions, and events for surveillance; the design of effective surveillance programs in routine and emergency situations; the operation of effective and efficient surveillance programs in a state health department, hospital, corporate, and other settings; the evaluation of surveillance programs; and the use of surveillance data for the purpose of epidemiologic research and practice.
011798	EPI 9113	INV	Community-Based Prog Eval	COPH 6403	Evaluation frameworks, needs assessments, and logic models will be studied with a particular emphasis on evaluating community-based programs. Performance evaluation as well as formative, process, impact, and outcome evaluation purposes and techniques will be compared. Theoretical and pragmatic approaches to the design and implementation of evaluation protocols will be explored, along with the role of both quantitative and qualitative methods. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of COPH 6303:Community-Based Public Health Program Design; successful completion of COPH 6438: Fundamentals of Research; HBHE 6021: Advanced Health Behavior Theory or equivalent; and either HBHE 6212: Applied Behavioral Research Methods or HPMT 6313:Health Services Research Methods or equivalent; or permission of instructor.
011748	EPI 9142	INV	Adv Epi Methods Lab	EPID 6423	This is an advanced, doctoral level laboratory-based course for students who require extensive preparation in epidemiologic theory and methodology. This course is designed to integrate and apply the methods introduced in Epidemiology III, Epidemiology III Lab, and Advanced Epidemiology Methods I, along with new methods, in order to prepare students to apply these methods as independent researchers in epidemiology.
011747	EPI 9143	INV	Adv Epi Methods	EPID 6424	This is an advanced, doctoral level course for students who require extensive preparation in epidemiologic theory and methodology. Topics covered include causal inference; study design; the analysis of crude, stratified, and matched data; approaches to assessing effect modification and adjusting for confounding; modeling data; bias and the critical evaluation of epidemiological studies.

011754	EPI 9163	INV	Genetic Epi	EPID 6324	The course covers statistical models and methods that are used to understand human genetics and genomics; specifically how genetic information can be incorporated into statistical models to discover disease genes. Topics include basic molecular and population genetics, marker selection algorithms, multiple comparison issues, population stratification, genome-wide association studies, genotype imputation, analysis of microarray data (gene expression, methylation data, eQTL mapping), and next-generation sequencing data analysis. The focus is modern approaches to association analysis. Many examples are used to illustrate key points. The course is intended for biostatisticians, epidemiologists and quantitatively-oriented geneticists and health scientists wanting to learn about statistical methods for genetic and genome analysis, whether to better analyze genes-related data, or to pursue research in methodology. An intermediate background in statistical methods is required (Biostat II). No background in genetics is assumed.
011768	EPI 9493	INV	Clinical Epidemiology	EPID 6224	This course is designed to introduce students to clinical epidemiology. Topics will include screening, diagnostic clinical research, prognostic clinical research and etiologic clinical research, randomized and non-randomized clinical studies, clinical decision making and meta-analysis. This course also provides examples of how these methods are applied in actual clinical epidemiologic studies, and guidelines for critically evaluating evidence from these studies. Course evaluations will be based on the students' performance in class participation, examinations, written assignments, as well as a written project demonstrating the students' ability to apply these methods.
011751	EPI 9583	INV	PH Prepared and Emerg Res	EPID 6227	Public Health Preparedness and Emergency Response is an elective course within the Department of Epidemiology. It is designed to provide an overview of how public health interfaces with all hazards including bioterrorism, chemical and radiological emergencies, as well as natural hazards and disasters. Organizational needs will be addressed in order to prepare for and respond to these events. Specific competency-based education will be addressed in the areas such as bioterrorism agents, emergency response capabilities, crisis communication during disasters, and development of plans and responses for humanitarian emergencies. The course will involve practical sessions at the Arkansas Department of Health.
011790	EPI 9683	INV	Social Epidemiology	COPH 6346	This course is designed to examine the scientific basis for associations between social factors, both contextual (e.g., poverty, housing, education) and interpersonal (e.g., racism, social support, stigma), and health. In addition, students will be challenged to consider social factors in understanding the epidemiology of diseases, the design and implementation of health protection/promotion programs, and the implementation of health policy. Prerequisites: EPID 5122: Epidemiology I; HBHE 5104: Introduction to Health Behavior and Health Education; or permission of the instructor.
012459	EPI 9831	INV	Epidemiology Seminar	EPID 6102	In-depth study of current topics in epidemiology or advanced study of specialized topics not covered in other courses. Instructional techniques may include directed reading, group discussion, lectures, and/or web-based instruction, and/or student presentations. Prerequisites: Enrollment as a doctoral student in the PhD program in Epidemiology.
011769	EPI 9863	INV	Molecular Epidemiology	EPID 6335	The objective of this course is to provide conceptual and practical knowledge of the methods used in molecular epidemiology. Specifically, students will learn about: motivation and strategies for the application of molecular methods in etiologic and translational research; some novel and commonly used laboratory assays; measurement issues for biomarkers; methods used in genetic studies of complex diseases; phenotypic markers of exposure and disease; analytic issues and approaches to high dimensional data; evaluation of biomarkers for clinical use; and ethical issues specific to biospecimen banking and genetic data.
011750	EPI 9873	INV	Cohort Studies	EPID 6336	This course is on designs and analyses used for cohort studies and their derivatives (nested case-control studies and case-cohort studies). The first part of the course covers designs for cohort studies. Various designs will be demonstrated through examples from the literature, and issues in carrying them out will be discussed including strengths and limitations. The second part covers analyses of cohort studies, beginning with simple designs and progressing to more complex designs. The course is a mix of theory to motivate methods and hands-on application of methods to gain familiarity with the interpretation and presentation of results. SAS procedures are used for analyses of grouped data (Poisson regression using GENMOD), analyses of time-to-event data (proportional hazards regression using LIFETEST & PHREG), and analyses of repeated measures (GLM & MIXED). The course will be supplemented with exercises that give the students experience in study design and statistical analysis.
011749	EPI 9883	INV	Basic Lab Methods	EPID 6101	Students in the MPH program often come from many different backgrounds and some have little background or understanding of laboratory science and its integral part of the health care system. This course will include a brief introduction to the laboratory profession, scope of practice, state/federal laws and regulations, code of ethics and various types of lab tests (hematology, clinical chemistry, microbiology, immunology, serology, and molecular diagnostics). Students will acquire knowledge of commonly used laboratory techniques and an understanding of the testing procedures being carried out. They will also learn how tests can be affected by specimen collection and handling as well as issues related to strengths and limitations of the different testing procedures. Upon completion, students will be more familiar with general laboratory practice, and tests used in epidemiologic studies.
012683	GENC 617V	INV	Thesis in Genetic Coun.	GENC 5700	Independent study for thesis genetic counseling students. Thesis students must register for a total of six semester hours; one to three semester hours per semester. Prerequisite: successful completion of the entire Genetic Counseling program first year curriculum including GENC 5141 Research Methods in Genetic Counseling.
012723	GENC 618V	A	Sp/Tp in Genetic Couns	GENC 5592	Special Topics in Genetic Counseling allows a student to explore areas of practice or the discipline in more depth. The course may be taken to augment a student's knowledge for a thesis topic or to enhance clinical skills. Prerequisites: Admission to the program and approval by the program director.
011867	GENC 618V	INV	Sp/Tp in Genetic Couns	GENC 5592	Special Topics in Genetic Counseling allows a student to explore areas of practice or the discipline in more depth. The course may be taken to augment a student's knowledge for a thesis topic or to enhance clinical skills. Prerequisites: Admission to the program and approval by the program director.
012687	GENC 5004	A	Int. Molcul Gen.&Genomics	GENC 5004	Background in the principles of molecular genetics and genomics and familiarizing the student with the laboratory techniques now available. The course will also assist students in developing the problem-solving skills required to extract and utilize genetic information from patients and families. Acceptance into the Genetic Counseling program is the prerequisite.
012690	GENC 5011	A	Clin Observation I	GENC 5011	Rotation through individual outpatient genetic clinics or laboratories to lay a foundation for a student's more active participation in later clinical genetic counseling.

012688	GENC 5013	A	Coun.Theor&Skills-Gen.Coun	GENC 5013	An overview of the psychological and sociological impact that genetic disease and birth defects have on affected individuals, families, and society at large. The theories of psychosocial counseling that represent the core of the profession will be explored. In addition, the students will examine their own beliefs and backgrounds, and understand how these may impact their ability to provide genetic counseling. Prerequisite for this course is acceptance into the program.
012708	GENC 5021	A	Clinical Observation II	GENC 5021	Continuation of rotations through individual outpatient genetics clinics to lay the foundation for a student's more active participation in later clinical genetic counseling. Prerequisite is admission into the program.
012689	GENC 5022	A	Prof.Issues in GenCoun 1	GENC 5022	An introduction to the profession of genetic counseling. It will provide students with information necessary to function in that role in a variety of settings. Teaching will include lectures, observations, demonstrations, and special independent and group assignments. Topics include: history of the profession, obtaining accurate family histories/recording accurate pedigrees, multicultural sensitivity, and constructing an overall genetic counseling session.
012685	GENC 5043	A	Medical Genetics I	GENC 5043	Instruction in Mendelian Inheritance, atypical patterns of inheritance of human disease, the pathogenesis of genetic conditions and birth defects, the importance of the field of genetics in clinical medicine, including the basics of genetic screening, testing, and treatment. In addition, the role of chromosomes in heredity will be introduced and human hereditary disease mechanisms will be discussed in detail.
012684	GENC 5052	A	Writ. & Crit. Analysis	GENC 5052	A course in scientific writing, medical documentation and critical analysis of both the medical literature and lay articles/patient information as it pertains to genetic counseling. Prerequisite: acceptance into the program.
012709	GENC 5062	A	Human Embryology	GENC 5062	This course will cover in detail normal and abnormal prenatal human development, as well as placental abnormalities. The approach will explore why and when congenital malformations occur.
012345	GENC 5062	INV	Human Embryology	GENC 5062	This course will cover in detail normal and abnormal prenatal human development, as well as placental abnormalities. The approach will explore why and when congenital malformations occur.
012738	GENC 5108	A	Dysmorph & Embrology	GENC 5108	The course explores normal human development, causes for abnormal embryological development, the study of dysmorphology, and the embryological timing for abnormal development, including congenital malformations. Prerequisites: admission into the genetic counseling program and a letter grade of "B" or higher in first semester of coursework.
012710	GENC 5141	A	Research Methods	GENC 5141	Introduction to research methodologies in genetic counseling. Students focus on developing research questions; reviewing the literature; methodology, and data analysis plans for their independent research or thesis project; and writing and submitting an IRB proposal. Prerequisites: successful completion of GENC 5052 Writing & Critical Analysis, acceptance in the program, a research advisor, and a research topic.
012711	GENC 5142	A	Human Cytogenetics	GENC 5142	Graduate instruction in all aspects of human cytogenetics including chromosomal anomalies, rearrangements, uniparental disomy, and epigenetics, with particular relevance to the genetic counseling profession. The course content will include human chromosome structure, behavior, nomenclature, clinical chromosomal abnormalities, as well as current cytogenetic laboratory methods covering both their capabilities and their limitations.
012712	GENC 5153	A	Psychosocial GENC	GENC 5153	Builds on GENC 5013; continues to explore the psychological, familial, and sociological impact that genetic disease, developmental disability and birth defects have on individuals, families and society. More time is devoted to application of learned theory and concepts through role play and standardized patients at the clinical skills center.
012679	GENC 5162	A	Population Genetics	GENC 5162	The basics of genetic epidemiology and population genetics, including interpretation of large-scale, population based genetic studies. The course will introduce and teach students to use probability theory, Hardy-Weinberg equilibrium, segregation and linkage analysis, and the Bayesian Theorem.
012713	GENC 5172	A	Prenatal Diagnosis	GENC 5172	Prenatal genetic counseling techniques and prenatal diagnostic procedures will be introduced, discussed, and demonstrated.
012677	GENC 5181	A	Teratology	GENC 5181	The course will present an overview of teratology. Information on known and potential human teratogens will be provided. Students will become familiar with major teratogen references and databases, and will practice strategies for informing patients and providers about teratogen information.
012678	GENC 5183	A	System Disorders	GENC 5183	This course will provide the student with an understanding of genetic disorders as they affect multiple body systems. It will cover the natural history and differential diagnosis of disorders. This course is not just about learning theory. Students will use the information they learned about genetic conditions to evaluate examples of cases that presented a particular birth defect or clinical condition.
012714	GENC 5192	A	Dysmorphology & Com Syndromes	GENC 5192	Information on the genetic, clinical, and diagnostic testing bases of a variety of genetic syndromes. Information on normal and abnormal human development and the study of dysmorphology. Acceptance into the program is the prerequisite, as is successful completion of GENC 5004 and GENC 5042.
010471	GENC 5192	INV	Dysmor&Common Syndromes	GENC 5192	Information on the genetic, clinical, and diagnostic testing bases of a variety of genetic syndromes. Information on normal and abnormal human development and the study of dysmorphology. Acceptance into the program is the prerequisite, as is successful completion of GENC 5004 and GENC 5042.
012715	GENC 5232	A	Prof Iss GENC II	GENC 5232	Instruction specific to the profession of genetic counseling. Topics include: awareness of available genetic services for appropriate patients including clinical, education, and psychosocial support; methods of genetic outreach in rural areas including telemedicine; clinical skill development utilizing difficult clinical cases; and other professional genetic counseling issues, expanding upon the counseling theory and techniques introduced in previous semesters and clinical clerkships.
012716	GENC 5242	A	Cancer Genetics	GENC 5242	The genetic basis of inherited cancer and cancer syndromes, with an overview of the development and treatment of these cancers. In addition, exploration of cancer genetics, patient education, and psychosocial adjustment to presymptomatic testing.
012686	GENC 5251	A	Ethics I	GENC 5251	Methods of ethical case analysis through lecture, demonstrations, and problem-based learning. Focus will be placed on cases/situations that genetic counselors will encounter in everyday employment and other professional areas.
012717	GENC 5262	A	Metabolic Genetics	GENC 5262	Information on inborn errors of metabolism: diagnosis, biochemical characteristics, inheritance, and treatment options.
012680	GENC 5312	A	Pub. Hlth. Genomics	GENC 5312	Overview of historical and contemporary issues in public health genomics. Topics include eugenics; newborn screening; advocacy; health care system and public health service in the US; needs assessments; epidemiology; registries; core functions of public health; gene-environment interactions; emergency preparedness and the role of the regional genetics collaboratives.
012718	GENC 5322	A	Medical Genetics II	GENC 5322	This course will provide in-depth information on specialty areas in clinical genetics including psychiatric genetics, ocular genetics, cilopathies, pharmacogenetics, and immunogenetics. Time will be devoted to topics of interest as identified by the class. Lectures will be geared towards practical knowledge for the new, clinical genetic counselor.

The course concordance is subject to change. Please refer to the newest version at registrar.uams.edu and avoid saving a local copy.

Status Key: A = Active Course; INV = Inactive; New Version (the renumbering listed is equal to the new version)

012681	GENC 5351	A	Genetic Counseling Ethics II	GENC 5351	Methods of ethical case analysis through lecture, demonstrations, and problem-based learning. Focus will be placed on cases/situations that genetic counselors will encounter in everyday employment and other professional areas.
012332	GENC 5351	INV	Genc Ethics II	GENC 5351	Methods of ethical case analysis through lecture, demonstrations, and problem-based learning. Focus will be placed on cases/situations that genetic counselors will encounter in everyday employment and other professional areas.
012719	GENC 5513	A	Novice Clinical Clerkship	GENC 5513	Provide students with practical experience performing novice level genetic counseling skills. Students will observe and counsel patients under the supervision of board certified genetic counselors and/or medical geneticists. Prerequisite: Successful completion of GENC 5021 Clinical Observation II.
012350	GENC 5513	INV	Novice Clinical Clerkship	GENC 5513	Provide students with practical experience performing novice level genetic counseling skills. Students will observe and counsel patients under the supervision of board certified genetic counselors and/or medical geneticists. Prerequisite: Successful completion of GENC 5021 Clinical Observation II.
012682	GENC 5613	A	Intermed. Clin. Clerkship	GENC 5613	Provide the student with practical experience performing intermediate level genetic counseling skills. Students will observe and counsel patients under the supervision board certified genetic counselors and/or medical geneticists. Prerequisite: Successful completion of GENC 5513 Novice Clinical Clerkship.
012349	GENC 5613	INV	Intermed Clin Clerkship	GENC 5613	Provide the student with practical experience performing intermediate level genetic counseling skills. Students will observe and counsel patients under the supervision board certified genetic counselors and/or medical geneticists. Prerequisite: Successful completion of GENC 5513 Novice Clinical Clerkship.
010481	GENC 5613	INV	Clinical Practicum II	GENC 5613	Provide the student with practical experience performing intermediate level genetic counseling skills. Students will observe and counsel patients under the supervision board certified genetic counselors and/or medical geneticists. Prerequisite: Successful completion of GENC 5513 Novice Clinical Clerkship.
012720	GENC 5713	A	Adv Clinical Clerkship	GENC 5713	Provide the student with practical experience performing advanced level genetic counseling skills to prepare the student for an entry level genetic counseling job. Students will observe and counsel patients under the supervision board certified genetic counselors and/or medical geneticists. Prerequisite: Successful completion of GENC 5613 Intermediate Clinical Clerkship.
012721	GENC 6152	A	Thesis/Research Projects	GENC 5572	Independent study form non-thesis genetic counseling students. Students focus on data collection and drafting their research manuscript. Pre-requisite: successful completion of GENC 5141 Research Methods in Genetic Counseling, acceptance in the program and an IRB proposal that is either in- review or approved.
012722	GENC 6162	A	Research Projects II	GENC 5562	Independent study for initiation, design, and completion of thesis study under the approval/guidance of the faculty advisory committee. For students who choose the non-thesis track, the special project course will enable them to complete independent projects or presentations that have been approved by the faculty advisory committee. Pre-requisites include acceptance into the program and approval of topic(s) by appropriate faculty.
012691	GENC 6173	A	Thesis in Genetic Counseling	GENC 5700	Independent study for thesis genetic counseling students. Thesis students must register for a total of six semester hours; one to three semester hours per semester. Prerequisite: successful completion of the entire Genetic Counseling program first year curriculum including GENC 5141 Research Methods in Genetic Counseling.
011839	GSIC 971V	A	Prof Dev Seminar	COPH 6411	While course content will vary, this course is designed to increase doctoral students' competencies in some of the following areas: effective written and oral communication, advocacy for public health programs and resources, group dynamics, unbiased listening, professional interaction, leadership, team building, negotiation/conflict resolution skills, basic human relations skills, motivation of personnel, collaboration skills, team and organizational learning. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; or permission of instructor.
011312	GSIC 3612	INV	Drug Information	PHPR 7107	This course will introduce the top 200 drugs available in the U.S. and to the drug and medical literature that is available at UAMS. The instructors will emphasize how to locate, evaluate and communicate medical and drug information. The course will involve didactic lectures and assignments that will require the student to utilize the information resources available on the UAMS Library website, the UAMS Intranet and the Internet. This is a two credit hour course.
011416	GSIC 5101	INV	Biostat I Computer Lab	BIOS 5111	This course will introduce statistical software computing associated with topics discussed in Biostatistics I. The primary statistical software will be R. R is an extremely versatile and powerful statistical package that is becoming very popular among researchers in virtually every research realm. Unlike most statistical software, R is free and is constantly being enriched by users themselves. Additionally, R can be downloaded and compiled on almost any computer platform, thus allowing students to use their own computer in the course and beyond. Topics include inputting data, calculation of descriptive statistics, t-tests, confidence intervals, chi-square test, regression, analysis of variance, and non-parametric methods. This course is designed to enrich computing skills and simultaneous or past enrollment in Biostatistics I is not required, but is highly recommended. Students should have a background in fundamental statistics. Students must provide their own notebook computer.
011758	GSIC 5113	INV	The Health Care Sys	HPMT 5103	Analysis of system-wide issues related to the delivery of health in the United States, including organizational arrangements, financing, health status issues, health insurance, health manpower, cost of health care, quality of health care, access and regulatory issues.
011524	GSIC 5123	INV	Analyz Hlth Surveys	BIOS 5324	This course will teach students the fundamentals of survey sampling and analysis and introduce them to national health surveys currently used. Students will report on the published analyses results of the "are of interest" national health survey. They will also apply statistical analysis techniques to a project – a class presentation on an existing national survey, and a final analysis project of their choosing (with instructor approval) using a national health survey. Prerequisites: Prior completion of BIOS 5013: Biostatistics I.
011303	GSIC 5133	INV	Int Hlth Behav & Hlth Ed	HBHE 5104	Introduction to health behavior, health education, theory, health disparities, behavioral research, and community-based health promotion practice; defines key terms and concepts; intrapersonal, interpersonal, and community level theories of health behavior; variables influencing responses to interventions; interpersonal and community level theories examining elements in the environment affecting health behavior; basic planning models; and includes discussion of ethical principles and application of theory in culturally distinct and/or other unique populations.

011523	GSIC 5201	INV	Biostat II Comp Lab	BIOS 5200	This course will introduce statistical software computing associated with topics discussed in Biostatistics II. The primary statistical software will be R. R is an extremely versatile and powerful statistical package that is becoming very popular among researchers in virtually every research realm. Unlike most statistical software, R is free and is constantly being enriched by users themselves. Additionally, R can be downloaded and compiled on almost any computer platform, thus allowing students to use their own computer in the course and beyond. Topics include inputting data, calculation of descriptive statistics, multiple regression, general linear models, experimental designs, logistic regression, and factorial analysis of variance. This course is designed to enrich computing skills and simultaneous or past enrollment in Biostatistics II is not required, but is highly recommended. Students should have a background in fundamental statistics and topics associated with Biostatistics II. Students must provide their own notebook computer.
011505	GSIC 5253	INV	Hlth Info Sys Admin	HPMT 5212	Course is designed to expose students to the purpose and value of health information systems. Various components of such systems, how such systems are designed and how information provided by such systems can assist day-to-day operations as well as strategic planning. Prerequisite: HPMT 5103: The Health Care System.
011883	GSIC 5263	INV	Enviromental Exp Assess	ENVH 5222	Quantitative introduction to the process of environmental hazard, exposure and dose evaluation for inhalation, ingestion, and dermal absorption routes. Particular attention is given to air contaminant measurement principles and interpretation of monitoring results. Includes the assessment and modeling of workplace, community, and residential environments, and the associated sources and pathways of chemical exposure.
011815	GSIC 5273	INV	Health Economics	HPMT 5104	The course provides an overview of economic theory with health care applications. Economics is the study of optimal allocation of scarce resources. Health economics considers the allocation of health care resources to evaluate whether more efficient or equitable distributions can be achieved. Economics concepts and principles will be introduced, followed by the application of these principles to health care, health management, and health policy. Prerequisites: BIOS 5013: Biostatistics I; HPMT 5103: The Health Care System; or permission of instructor.
012368	GSIC 5311	INV	Biology for Pub Hlth	ENVH 5003	Biology for Public Health is an introductory course which provides a foundation of biology concepts necessary for the practice of public health. The lectures in this course will focus on the biology basics related to current topics in public health including an overview of the biology of growth and development, biology of aging, biology of cancer, micronutrients and dietary supplements, and obesity. Each lecture series will relate covered biological concepts back to major issues surrounding current diseases affecting US and worldwide populations. The course will also assist students in their preparations for the National Board of Public Health Examiners' (NBPHE) Certification Exam.
012418	GSIC 5363	INV	Intro Hlth Pol & Politics	HPMT 5132	Examines the nature of public policy making process within the various core functions of public health, and the influence of the political, bureaucratic, and social environment in which policy decisions are made. The consequences of health policy decisions and the key dimensions of current public health policies will also be examined. In addition to conceptual discussions of each of the above, the course includes evaluation of case studies of public health policy decisions and discussions with policy makers from multiple levels of government and multiple backgrounds. Prerequisites: HPMT 5003: Introduction to Public Health; HPMT 5103: The Health Care System.
011656	GSIC 5533	INV	Hlth Care Qual Mgmt	HPMT 5110	Explores the critical issues and systems for the evaluation and management of quality in health care delivery systems; emphasis is given to the determinants of quality of care in community and institutional settings, clinical quality evaluation, and quality improvement in health care organizations. Among the specific issues covered are quality standards used by regulators and accreditation agencies, methods for performance measurement and outcome research, and quality improvement utilizing total quality management concepts. Prerequisites: PBHL 5003: Introduction to Public Health; PBHL 5123: The Health Care System.
011654	GSIC 5562	INV	Radiation Biology	PHPR 7153	Introduction to the interactions of radiation and biological systems, including chronic and delayed effects through physical and chemical changes from radiation. 2 credit hours
011417	GSIC 5653	INV	Theo Hlth Beh Hlth Educ	HBHE 5225	Addresses the social and behavioral foundations of public health; emphasis on social and cultural determinants that shape behavior through complex interaction; presents a socio-ecological framework for understanding the relationship between human populations and health status; locates health problems in the context of multilayered social systems and temporal processes of change. Prerequisites: HBHE 5104: Introduction to Health Behavior and Health Education; or permission of instructor.
011274	GSIC 5753	INV	App Microcomputers Data	BIOS 5213	Brief overview of software packages commonly used for data management and analysis that include Excel, Access, SPSS and Stata, followed by primary focus on use of SAS software in data management and recoding techniques. These include working with SAS libraries, inputting raw data, reading and writing from external files, using logical structures, using numerical and character functions, working with dates and using arrays. Course focuses on programming techniques with limited use of analytical procedures. Class activities include lecture/discussion and intensive programming work using SAS. Prerequisite: Prior completion or concurrent enrollment in Biostatistics I is recommended.
011787	GSIC 5763	INV	Categorical Data Analy	BIOS 6214	This course is designed to give students an overview of statistical methods commonly used for analysis of categorical data. Some of the topics include binomial and Poisson distributions, analysis of 2x2 tables, Fishers exact test, McNemar test, stratified analysis, trend analysis and logistic regression. Class activities include lecture/discussion, group work, analytical assignments and critical literature reviews. Prerequisite: Biostatistics I.
011818	GSIC 5782	INV	Prog Epi Data Mgmt	EPID 5573	This course focuses on developing student skills in data management, including quality control procedures, and basic programming for data management and analysis. Specific skills will include building databases for data entry, preparing database documentation, completing quality control checks, and completing basic programming for analysis for epidemiologic data. The course will focus on programming techniques with limited use of analytical procedures; however, basic programming for common analytic techniques (i.e., ttest, chi square, linear regression, logistic regression, correlation, etc.) will be addressed. Class activities include lecture/discussion and intensive programming work using Excel, Access, and SAS, along with exposure to other software packages (e.g., SPSS, Stata). Prerequisites EPID 5112: Introduction to Epidemiology (Epi 1); BIOS 5013: Introduction to Biostatistics (Biostats 1); EPID 5322: Research Design and Implementation (Epi 2); and BIOS 5212: Advanced Linear Models (Biostats 2); or permission of instructor.
011865	GSIC 5803	INV	Clin Nursing Genetics	NURS 5391	This course focuses on genetics for individuals, families and populations who are at risk for genetic conditions or who have a condition with a genetic component. Topics covered will prepare the student to apply genetic/genomic science to advanced assessments, interventions, outcomes, and research.

011530	GSIC 5843	INV	Rac & Ethn Hlth Dispar	HPMT 5426	This course explores racial and ethnic health disparities in the United States. Students will examine the literature on health and health care disparities; the historical and social structural determinants pertinent to the etiology of disparities; the role of genomics; and policy and programmatic strategies for reducing disparities. This course uses traditional approaches to learning (such as assigned readings, analysis, and discussion) combined with personal and group experiential learning. Students will be required to engage in active discussion of readings and to participate in service learning activities which will include preparation, reflection and practice components. Therefore students will spend time in class with instructors, online in group discussions, and as a group in the community with community based partners and instructors.
011657	GSIC 5862	INV	App of Basic Epi Tech	EPID 6110	
012757	GSIC 9653	INV	Impl Rsch Clin Practice	HPMT 6319	Examines the theoretical frameworks relevant for studying diffusion of innovations and implementation of change in clinical practice settings, assesses the empirical evidence on strategies for adopting and implementing change, and considers methods for evaluating change processes.
012672	HIA 3301	A	Reimb. Meth. & Rev. Cycle	HIMA 3301	Identify processes and review strategies to enhance the efficiency and effectiveness of the revenue cycle. Investigate each phase of this process to identify areas needing improvement and techniques to improve cash flow. The student will explore various types of health plans and payers, which exist and how these programs provide reimbursement. Areas reviewed include the structure of reimbursement, chargemasters, revenue cycle management, and how reimbursement is executed from the viewpoints of the employer, consumer, and provider.
012670	HIA 3303	A	Epidemiology	HIMA 3303	An introduction to epidemiology, with an emphasis on understanding the general field of epidemiology and its main applications to society. Course instruction is based on lectures and discussions reviewing the basics of epidemiological analysis of disease and intervention, the ways that the field of epidemiology can uncover causes of diseases, and the application of epidemiology to disease evaluation and health policy.
012673	HIA 3304	A	Mgmt. of Info. Systems	HIMA 3304	This course will allow students to apply computer technology and information concepts to the decision making process in the health care environment. Acquisition of systems, systems analysis life cycle, design, implementation, and evaluation will be explored along with issues relating to system security. Systems found in health care will be reviewed as will problems, limitations and future trends. The roles of administrator, clinician, and information manager within health care of various systems will be examined. Database architecture and design with interface design will be studied.
012407	HIA 3305	INV	Reg Strnds & Accred	HIMA 3305	Addresses the regulatory standards for documentation of various agencies for acute care, rehabilitation, skilled nursing and other types of facilities. Also covers standards for records and data transmission from such external agencies such as ANSI, HL-7, ASTM, HIPAA, and others. Reviews accreditation standards as well as licensure requirements for acute care, rehab, state health, and others.
012408	HIA 3306	INV	Statistics	HIMA 3306	This course provides an introduction to research methodology and principles using methods of statistical analysis on healthcare data. Topics include descriptive and inferential statistics, data reporting and presentation, and use of computerized statistical packages.
012761	HIA 3307	A	Networking & Security	HIMA 3307	This course addresses the concepts of health information data and exchange along networks. Data sharing internal and external to the facility as well as network exchange to other federal, state, and national initiatives such as National Health Information Network (NHIN) will be discussed. Security of patient data along networks will be examined as this relates to HIPAA and HITECH and identity theft.
012731	HIA 3308	A	HR Mgmt	HIMA 3308	A study of principles and policies of personnel administration including interviewing, evaluating, employment laws, and performance standards. Workforce trends and market analysis as well as organizational assessment and benchmarking will be considered. Management principles, change management, communication, team building, and problem solving will be surveyed.
012762	HIA 3309	A	Finance and Fiscal Management	HIMA 3309	An introduction to accounting principles, with an emphasis on budget processes, healthcare finance, cost effectiveness, and cost/benefit analysis. Case mix analysis, bond ratings, investments, and capitalization will be studied. This course includes financial statements, analysis and control, management of capital, and decision analysis.
012732	HIA 3310	A	Rsch & Eval	HIMA 3310	An introduction to research methods and practical investigation for the student to learn and develop skills to critique and conduct studies in health information management areas. A foundation is obtained in basic types of studies where the student develops a project proposal including selecting the topic, developing the problem statement or definition, and the rationale for the project. The framework for the literature review is outlined and submitted for approval by the department faculty.
012696	HIA 4301	A	Adv. Legal	HIMA 4301	Review of laws and administration as it applies to healthcare settings. Emphasis is on recent legislation and on electronic health records. Also discussed are legal health records, record amendments, confidential communications in the electronic setting, release of information, consents, authorizations, and risk management.
012671	HIA 4302	A	Qual Mgmt. & Otcn. Asses.	HIMA 4302	Assesses outcomes research activities, focuses on leadership in implementing outcomes assessment projects/programs within healthcare organization and systems. Investigates initiatives which impact outcomes and activities on patients and how data are integrated to improve patient care effectively. Theories of quality, models, workflow re-design, and outcome measurement will be addressed.
012763	HIA 4303	A	Intern Current Trends	HIMA 4303	Two hours of lecture within this course (fifteen weeks of a two hour lecture course) will include a study of the latest trends in healthcare. Within this study, students will learn the latest trends in U.S. healthcare delivery and organization of healthcare systems. National health initiatives will be examined as applicable to health information policies and systems. The structure and operation of healthcare organizations such as e-health delivery will be explored with a focus on how the electronic health record impacts overall operations for a healthcare facility from perspectives of clinical, administrative, and the patient. The remaining hour of this course will be considered a lab hour of 3:1 ratio where the student will perform hands-on professional practice for a total of 45 clock hours. This is a supervised management experience and training within a healthcare or related setting. The student will participate in administrative, management, and problem-solving activities.
012764	HIA 4401	A	Capstone Project	HIMA 4401	Using the framework from the Research & Evaluation course, the literature review requires reading, thinking, and writing within the selected HIM topic. This will allow the student to develop the project using research design methods and knowledge-based research techniques. The completed project will be submitted to the department for final approval.

000965	HIM 1101	A	Clinical Lab I	HIMT 1101	The student will be given the opportunity to correlate the didactic experience of previous courses with on-site and on-campus laboratory learning experience.
000966	HIM 1102	A	Clinical Lab II	HIMT 1102	The student will be given the opportunity to correlate the didactic experience of previous courses with on-site and on-campus laboratory learning experience.
000967	HIM 1103	INV	Prof Issues Sem	HIMT 1193	Introduction to the HIM profession, ethics, and professional organizations. Concepts of professionalism. Overview of basic skills required for the profession. Group and team building processes.
012760	HIM 1104	A	Exam & Workforce Prep	HIMT 2103	A course designed to provide students with the skills for seeking employment (to manage their careers effectively). Topics covered include conducting a job search, interviewing techniques, employment, correspondence, acquiring web based skills along with resume and portfolio development for job search, and career advancement. Students will also demonstrate technology and academic proficiencies. Students must pass a comprehensive HIM program exit examination. This course also includes a comprehensive review of program competencies and preparation for the official RHIT exam.
011599	HIM 1193	A	Prof Issues Sem	HIMT 1193	Introduction to the HIM profession, ethics, and professional organizations. Concepts of professionalism. Overview of basic skills required for the profession. Group and team building processes.
000969	HIM 1202	A	Registry Prin/Prac	HIMT 1202	Introduction to basic registry operations which include hospital registries and central registries, basics of staging and classification systems used in cancer registries, overview of the survey process, procedures, requirements and standards of a registry and accreditation. Topics are: statistics, reporting, data sets, data editing, quality control, case-finding principles, cancer committees, cancer conferences, agency reporting, legal issues, and confidentiality.
011394	HIM 1203	A	Epidemiology	HIMT 1203	Introduction to the basic principles and methods of epidemiologic research and practice - presents an overview of the history and theoretical basis of epidemiology; measures of morbidity and mortality; disease transmission and risk; major epidemiologic study designs; measures of association; sources of error including bias, confounding, and interaction; evaluation of screening tests, inference, and causality.
000970	HIM 1301	A	Med Terminology	HIMT 1301	Introduction to the language of medicine. Emphasis is on terminology of all anatomical body systems, roots of words, suffixes, prefixes, and correlation with basic anatomy and physiology classes.
000971	HIM 1302	INV	Epidemiology	HIMT 1203	Introduction to the basic principles and methods of epidemiologic research and practice - presents an overview of the history and theoretical basis of epidemiology; measures of morbidity and mortality; disease transmission and risk; major epidemiologic study designs; measures of association; sources of error including bias, confounding, and interaction; evaluation of screening tests, inference, and causality.
000973	HIM 1304	A	Pathophys w/ Pharm	HIMT 1304	Common pathological conditions of the organ systems and the drugs of choice used in their treatment.
000976	HIM 1307	A	Applied Systems	HIMT 1307	Application of methods for implementing and managing health information systems in acute and ambulatory health care environments.
012775	HIM 1308	A	Hlth Record Sys/Iss	HIMT 1308	Basic concepts and functions in health information (HIM) to include development, storage and maintenance of the health record in the health care delivery systems environment.
000977	HIM 1308	INV	Hlth Record Sys/Iss	HIMT 1308	Basic concepts and functions in health information (HIM) to include development, storage and maintenance of the health record in the health care delivery systems environment.
011454	HIM 1309	A	ICD-10-CM/PCS	HIMT 1309	Introduction to the ICD-10-CM/PCS system for coding developed by CMS. Includes a brief history of its development and characteristics, and basic information. Emphasis is on the structure, characteristics and applications in detail to include procedures in the medical and surgical sections and ancillary sections. Also included are ICD-10-PCS definitions and coding guidelines of all seven characters: section, body system, root operation, body part, approach, device, and qualifiers.
000978	HIM 2101	A	Clinical Practice	HIMT 2101	The student will be given the opportunity to correlate the didactic experience of previous advanced courses with on-site and on-campus laboratory learning experience.
000979	HIM 2102	A	Problem Slvg Sem	HIMT 2102	Examination of the latest trends in health information management. Use of case studies for problem solving responses to management and supervisory issues.
000980	HIM 2201	A	Leg/Ethical Iss	HIMT 2201	The health record as a confidential legal document; legal principles, policies, regulations and standards for the control and use of health information. The basic structure of the federal and state court system. Definition and application of professional ethics and consideration of contemporary legal and ethical issues.
000981	HIM 2202	A	Registry Profess Prac	HIMT 2202	Directed practice provides hands-on experience in all aspects of registry operations. Supervised practice in a hospital registry includes skill and understanding in registry management, data collection and abstracting, coding and staging, follow-up, data utilization and reporting, computer applications, and quality assessment. The clinical rotations include 11 hours of directed practice each week during the 15-week semester.
000982	HIM 2203	A	Preceptorship	HIMT 2203	The student will be given the opportunity to correlate the didactic experiences of previous and concurrent courses with on-site and on-campus laboratory learning experiences. Application of operational management theory and orientation to all aspects of practice as a supervisor of a health information department component in a hospital, long term care or ambulatory setting. Includes student project(s).
000983	HIM 2301	A	Quality in Hlth Care	HIMT 2301	Purpose, philosophy and processes of improving organizational performance through quality assessment, credentialing, utilization management, and risk management. Use of quality improvement tools for case review, data collection, data display, and data analysis.
000984	HIM 2302	A	Expanded Coding	HIMT 2302	Introduction to nomenclature and classification systems with instruction in coding procedures with the CPT/HCPCS system. Coding data quality issues and methodology are introduced and related to the reimbursement system.
000985	HIM 2303	A	Data Mgmt & Stats	HIMT 2303	Computation and interpretation of health care statistics. Report generation, data display and data analysis.
000986	HIM 2304	A	Supervisory Mgmt	HIMT 2304	Supervisory principles of a health care information service. Review of specific human resource management functions including communication, motivation, and supervision. Review of budgets, staffing schedules, policies, procedures, and productivity. Analysis of case study examples from health information departments, in the inpatient, ambulatory, and physician office environments.
000987	HIM 2305	A	Intern Coding/Reimb	HIMT 2305	Application of advanced guidelines of ICD-9-CM, CPT/HCPCS, and coding in the prospective payment and managed care environments for acute and ambulatory care reimbursement.
011379	HIM 2401	A	Staging & Classification	HIMT 2401	Introduction to basic staging and classification systems to include hospital and central registries. Course covers the Facility Oncology Registry Data Standards (FORDS), International Classification of Diseases for Oncology, Third Edition (ICD-O-3), American Joint Committee on Cancer Staging Manual (TNM staging); Surveillance, Epidemiology, and End Results (SEER) Extent of Disease (EOD); and SEER Summary Staging Manual 2000. An overview of the principles and rules governing the classification system and each staging system to meet requirements and standards of a hospital and central registry are presented.
004707	HIM 4102	A	Independent Study	HIMT 4102	

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004706	HIM 4202	INV	Independent Study	HIMT 4102	
010934	HIM 4302	INV	Independent Study	HIMT 4102	
004676	HIM 4402	INV	Independent Study	HIMT 4102	
011276	HIM 4502	INV	Independent Study	HIMT 4102	
010935	HIM 4602	INV	Independent Study	HIMT 4102	
012413	HIMA 1300	A	Computer Fundamentals	HIMT 1300	
012355	HIMA 3301	INV	Reimb. & Rev. Cycle	HIMA 3301	Identify processes and review strategies to enhance the efficiency and effectiveness of the revenue cycle. Investigate each phase of this process to identify areas needing improvement and techniques to improve cash flow. The student will explore various types of health plans and payers, which exist and how these programs provide reimbursement. Areas reviewed include the structure of reimbursement, chargemasters, revenue cycle management, and how reimbursement is executed from the viewpoints of the employer, consumer, and provider.
012555	HIMA 3302	A	Health Data Mgmt.	HIMA 3302	A study of health care data, its collection, analysis, and uses with emphasis on infrastructure and regulatory requirements to support electronic health records. An overview of informatics and methods of applying information technology to health information management functions, including storage, management, use, and reporting of health care data. Also included are data sets, data sources, and data capture tools as well as secondary records and data standards.
012356	HIMA 3303	INV	Epidemiology	HIMA 3303	An introduction to epidemiology, with an emphasis on understanding the general field of epidemiology and its main applications to society. Course instruction is based on lectures and discussions reviewing the basics of epidemiological analysis of disease and intervention, the ways that the field of epidemiology can uncover causes of diseases, and the application of epidemiology to disease evaluation and health policy.
012354	HIMA 3304	INV	Mgmt of Info Systems	HIMA 3304	This course will allow students to apply computer technology and information concepts to the decision making process in the health care environment. Acquisition of systems, systems analysis life cycle, design, implementation, and evaluation will be explored along with issues relating to system security. Systems found in health care will be reviewed as will problems, limitations and future trends. The roles of administrator, clinician, and information manager within health care of various systems will be examined. Database architecture and design with interface design will be studied.
012409	HIMA 3305	A	Reg Stds & Accreditation	HIMA 3305	Addresses the regulatory standards for documentation of various agencies for acute care, rehabilitation, skilled nursing and other types of facilities. Also covers standards for records and data transmission from such external agencies such as ANSI, HL-7, ASTM, HIPAA, and others. Reviews accreditation standards as well as licensure requirements for acute care, rehab, state health, and others.
012410	HIMA 3306	A	Statistics	HIMA 3306	This course provides an introduction to research methodology and principles using methods of statistical analysis on healthcare data. Topics include descriptive and inferential statistics, data reporting and presentation, and use of computerized statistical packages.
012554	HIMA 4301	INV	Adv. Legal	HIMA 4301	Review of laws and administration as it applies to healthcare settings. Emphasis is on recent legislation and on electronic health records. Also discussed are legal health records, record amendments, confidential communications in the electronic setting, release of information, consents, authorizations, and risk management.
011101	HPPR 900V	INV	Independent Study	COPH 6000	This course provides in-depth consideration of specialized subjects not covered in general courses.
010800	HPPR 960V	INV	Research	COPH 6600	This course is intended to help the student establish a foundation for dissertation research, identify a Doctoral Advisory Committee, and prepare for the candidacy exam. It provides supervised experience in ongoing projects through which the student becomes familiar with the application of behavioral theory and scientific methods in public health research. Guidance from the mentor will help the student develop a dissertation topic, define the knowledge base and skills required to address the dissertation topic, and initiate discussions with potential Doctoral Advisory Committee members. Prerequisite: Doctoral student standing and permission of instructor.
011104	HPPR 980V	INV	Doctoral Dissertation	HBHE 6800	The doctoral dissertation is a culminating experience that requires the student to synthesize knowledge and apply behavioral theory and scientific methods in an independent research project. A written dissertation proposal must be presented and defended at a meeting of the Doctoral Advisory Committee. The completed dissertation must also be presented and successfully defended during a meeting of the Doctoral advisory Committee. The final written product must be submitted in accordance with the guidelines contained in Regulations for Preparing Theses and Dissertations. Prerequisite: Doctoral student standing and permission of instructor.
010485	HPPR 5773	INV	Survey Research Methods	HBHE 6325	This course will provide students with a practical overview of survey research methods. The primary focus will be on identifying or developing questionnaire items and scales and designing a survey instrument. The logistics of implementing a survey, tailoring instruments for specific settings, populations, and methods of administration, sampling methods, assessing sampling bias, and maximizing response rates will also be covered.
011813	HPPR 5843	INV	Crisis Communication	HBHE 6373	Issues such as terrorism, public health crises, and corporate malfeasance have increased the importance of crisis communication. This course will: facilitate understanding of the critical role of communication on the onset and recovery of crisis; enhance the student's effective crisis communication skills; promote understanding of the counter intuitive nature of crisis communication; utilize crisis communication theory and perspectives to argue for effectiveness and ineffectiveness in crisis communication; and assist interactions between students, researchers, and policy makers on effective crisis communication. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of three public health sciences core courses; or permission of instructor.
011731	HPPR 9011	INV	PH Resh & Pract I	COPH 6011	This course provides an introduction to issues addressed by core disciplines representing the full breadth of public health. Students will attend 15 one-hour presentations scheduled at the College of Public Health and at the Arkansas Department of Health. Prerequisite: Doctoral student standing
011766	HPPR 9021	INV	PH Resh & Prac II	COPH 6121	This course provides an introduction to issues addressed by core disciplines representing the full breadth of public health. Students will attend 15 one-hour presentations scheduled at the College of Public Health and at the Arkansas Department of Health. Prerequisite: Doctoral student standing

010486	HPPR 9023	INV	Adv Hlth BehaviorTheory	HBHE 6021	This course will review the major theories of behavior change and explore the complex relationships between socio-demographic factors and theory constructs. Students will gain substantial experience in designing behavioral theory-based public health interventions. Prerequisites: HBHE 5104: Introduction to Health Behavior and Health Education or its equivalent; Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; or permission of instructor.
011765	HPPR 9031	INV	PH Resh & Prac III	COPH 6131	This course provides an introduction to issues addressed by core disciplines representing the full breadth of public health. Students will attend 15 one-hour presentations scheduled at the College of Public Health and at the Arkansas Department of Health. Prerequisite: Doctoral student standing
011894	HPPR 9051	INV	Fundamentals of Research	COPH 6438	
010487	HPPR 9053	INV	App Behavior Rsch Methods	HBHE 6212	This course addresses behavioral research: the role of theory, problem definition, and hypothesis generation; research design; measurement of health behaviors; and critical review and interpretation of published research. Prerequisites: Doctoral student standing in the UAMS College of Public Health, and completion of HBHE 6021, or by permission of instructor.
010488	HPPR 9103	INV	Prog Design & Eval I	COPH 6403	Evaluation frameworks, needs assessments, and logic models will be studied with a particular emphasis on evaluating community-based programs. Performance evaluation as well as formative, process, impact, and outcome evaluation purposes and techniques will be compared. Theoretical and pragmatic approaches to the design and implementation of evaluation protocols will be explored, along with the role of both quantitative and qualitative methods. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of COPH 6303:Community-Based Public Health Program Design; successful completion of COPH 6438: Fundamentals of Research; HBHE 6021: Advanced Health Behavior Theory or equivalent; and either HBHE 6212: Applied Behavioral Research Methods or HPMT 6313:Health Services Research Methods or equivalent; or permission of instructor.
010489	HPPR 9113	INV	Comm Based Prog Eval	COPH 6403	Evaluation frameworks, needs assessments, and logic models will be studied with a particular emphasis on evaluating community-based programs. Performance evaluation as well as formative, process, impact, and outcome evaluation purposes and techniques will be compared. Theoretical and pragmatic approaches to the design and implementation of evaluation protocols will be explored, along with the role of both quantitative and qualitative methods. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of COPH 6303:Community-Based Public Health Program Design; successful completion of COPH 6438: Fundamentals of Research; HBHE 6021: Advanced Health Behavior Theory or equivalent; and either HBHE 6212: Applied Behavioral Research Methods or HPMT 6313:Health Services Research Methods or equivalent; or permission of instructor.
010490	HPPR 9123	INV	PH Fund & Grantsmanship	COPH 6437	This course provides information and cultivates skills required to develop grant applications supporting health programs and prevention research. Relevant topics include: funding agencies and mechanisms; justifying proposals; rigorous assessment and intervention methods; and working on a research team. Students will gain experience in writing funding proposals and creating program budgets. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; and HPMT 6313:Health Services Research Methods; or permission of instructor.
010987	HPPR 9253	INV	Faith-Based Hlth Prom	HBHE 6234	This course will review the literature on religion and health, and faith-based health promotion. Students will explore the complex relationships between religion and health, and apply the literature on religion and health into the design of faith-based public health interventions. Students will gain experience in building upon the current religion and health literature, and in the design of public health interventions that are appropriate for a faith-based setting. Prerequisites: For MPH Students: You must have successfully completed PBHL 5003, PBHL 5133, PBHL 5623, and PBHL 5653, and receive the instructor's permission to enroll in this course. For DrPH Students: You must have doctoral student standing in the DrPH program in Public Health Leadership, and have successfully completed at least one graduate-level course in health behavior or health education to enroll in this course. For PhD Students: You must have doctoral student standing in the PhD Program in Health Promotion and Prevention Research, and have successfully completed at least one graduate-level course in health behavior or health education to enroll in this course.
011730	HPPR 9313	INV	Communicat for PH Leaders	HBHE 6436	Theoretical overview of organizational communication; includes communication flow, networks, organizational relationships, groups, conflict, language. Special topics may include teams in organizations, diversity, organizational politics, leadership, and change. The focus is on applying organizational communication theories and concepts to understand others better and to control one's own communication in organizations.
010491	HPPR 9343	INV	Qualitative Methods	HPMT 6315	Examines conceptual models, methods, and dimensions of quality of care (QOC) research. Students will analyze the history and rationale of QOC assessment and methodological issues in measuring QOC in research. Prerequisites: Doctoral student status or permission of the instructor, HPMT 6003 and HPMT 6014.
010932	HPPR 9383	INV	Health Communication	HBHE 6326	This course provides students with an overview of current theory, practice and research in health communication with an emphasis on designing, implementing and evaluating mass media and community-based communication campaigns. Topics covered include social marketing, media advocacy, and risk communication in addition to traditional social-psychological theoretical approaches to risk reduction and health enhancing communication. Prerequisites: Completion of or concurrently enrolled in HBHE 5104: Introduction to Health Behavior and Health Education; or permission of instructor.
009025	HRP 4V02	INV	Independent Study	CHPI 4302	
009029	HRP 4V02A	INV	Independent Study	CHPI 4302	
011108	HRP 3101	INV	Seminar I	CHPI 3101	Problems related to legal and ethical issues commonly seen in the professional work place as presented in an interprofessional collaborative practice.
004704	HRP 4102	INV	Independent Study	CHPI 4302	
004827	HRP 4302	A	Independent Study	CHPI 4302	
009026	HRP 4502	INV	Independent Study	CHPI 4302	
010516	HSRE 990V	INV	Hlth Sys Dissertation Rsc	HPMT 6900	Independent research on a health system topic led by the doctoral candidate and guided by the approved dissertation committee. Students will complete at least 18 hours of dissertation research including research proposal development and conduct and defense of research. Prerequisites: Doctoral student status and completion of comprehensive exams.
010808	HSRE 5313	A	Data Mgt & Analysis	BIOS 6213	Brief overview of software packages commonly used for data management and analysis that include Excel, Access, SPSS and Stata, followed by primary focus on use of SAS software in data management and recoding techniques. These include working with SAS libraries, inputting raw data, reading and writing from external files, using logical structures, using numerical and character functions, working with dates and using arrays. Course focuses on programming techniques with limited use of analytical procedures. Class activities include lecture/discussion and intensive programming work using SAS. Prerequisite: Prior completion or concurrent enrollment in Biostatistics I is recommended.

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011653	HSRE 9003	INV	Adv Org Behav & Ldrshp	HPMT 6003	This primary goal of this graduate course is to explore the scientific study of the components of organizational behavior and leadership that help administrators of health systems maximize the performance of personnel in their organization. The framework of the course will examine the three core elements of organizational behavior including individual, group and organizational components. It will examine the common research methods in organizational behavior and current research findings. It will also explore leadership theories, research and current approaches to leadership development that can be applied to health care systems. The course is organized as a seminar and the students are expected to develop an ability to actively critique peer-reviewed scientific research.
010495	HSRE 9011	INV	Math & Statistics primer	HPMT 6011	This course will provide a review of fundamental mathematical and statistical concepts used in health systems research including linear and matrix algebra, nonlinear functions, derivatives, and probability theory. The course will require completion of a series of problem sets containing mathematical and statistical exercises, and final examination. Prerequisites: doctoral student standing.
010496	HSRE 9013	A	Instuct & Teach Practicum	HPMT 6013	This course includes a review of instructional concepts and methods for graduate education and a teaching practicum that will involve significant responsibilities in course design, instruction, and evaluation for an existing MPH, MHSA, or DrPH graduate course taught in the COPH. Prerequisites: Doctoral student status.
011871	HSRE 9103	INV	Hlth Sys Theory & Res	HPMT 6103	This course will review conceptual foundations of health services and systems research (HSR), and examine current topics and ongoing research in this field. Students will examine current empirical research conducted by local investigators concerning the development, organization, financing, and delivery of health services and their impact on population health. Students will also gain experience in conceptualizing research questions of interest in HSR, developing theoretical frameworks to inform these questions, and critically reviewing the empirical literature on topics of interest.
010498	HSRE 9113	INV	Adv Health Policy & Mgmt	HPMT 6114	This course provides an advanced examination of issues related to the development, implementation, and impact of public policies and health system management strategies on population health. It will include an in- depth exploration of: theories of policy development applied to health issues, including the competing influences of political, economic, and socio-cultural forces; strategies for agenda-setting and policy formation in the health arena; policy implementation and management approaches; policy analysis methods and tools; and policy and managerial decision-making strategies in health, including values-based and evidence-based perspectives; case studies of policy and managerial decisions made at national, state, and community levels will provide opportunities for in-depth discussion and analysis Prerequisites: Course for doctoral students or by permission of instructor. Students should be familiar with major public health concepts and practices, the organization and financing of the US health care system, major political institutions and processes in the US, and basic principles of statistics and probability.
011870	HSRE 9203	INV	Variation Hlth Sys Perfm	HPMT 6213	At its core, the field of health services research is devoted to the study of variation in health system performance and health care practice. This course will focus on what can be learned from studies of variation in health systems and services - investigating the causes, consequences, and solutions to harmful, wasteful, and inequitable variation. In doing so, this course will review conceptual foundations of health services and systems research (HSR), and examine current topics and ongoing research in this field. Students will examine current empirical research conducted by investigators concerning the development, organization, financing, and delivery of health services and their impact on population health. Students will also gain experience in conceptualizing research questions of interest in HSR, developing theoretical frameworks to inform these questions, and critically reviewing the empirical literature on topics of interest.
010499	HSRE 9303	INV	Ap Rsch Meth use Ret Data	HPMT 6303	This course will outfit students with the skills necessary to analyze and conduct studies using retrospective health care data with a focus on large administrative claims data such as Medicaid and private payer insurance claims. Students will use SAS to analyze actual health care data. Instruction on study design, statistical techniques, and data integrity issues specific to observational studies using these data sources will be offered.
010500	HSRE 9313	INV	Adv Meth in Hlth Serv Rsc	HPMT 6313	This course provides an overview of study design and methods for health services research (HSR) applied to health policy and public health problems. It will include exploration of: (1) study design principles with emphasis on the non-experimental and quasi-experimental designs most often employed in health policy and services research; (2) methodological problems often encountered in applied health policy and services research; (3) the "toolbox" of quantitative methods most often used in health policy and services research; and (4) principles and strategies for interpreting study results and communicating them to diverse stakeholders in public health. The course will emphasize hands-on exercises in using HSR methods and case studies of published HSR studies, with a focus on health policy and public health topics. The course will focus on quantitative research methods grounded primarily in the disciplines of econometrics and statistics, while highlighting the many close connections to other methodological perspectives including epidemiology, sociology, demography, and political science. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of three public health sciences core courses; or permission of instructor.
010501	HSRE 9323	INV	Adv Econometric Meth & ST	HPMT 6323	Examines advanced econometric methods used in health systems research, including instrumental variables analysis, propensity score methods, longitudinal and panel data analysis methods, and duration models.
010502	HSRE 9333	INV	Survey Research Methods	HBHE 6325	This course will provide students with a practical overview of survey research methods. The primary focus will be on identifying or developing questionnaire items and scales and designing a survey instrument. The logistics of implementing a survey, tailoring instruments for specific settings, populations, and methods of administration, sampling methods, assessing sampling bias, and maximizing response rates will also be covered.
010503	HSRE 9343	INV	Qualitative Rsch Methods	HPMT 6315	Examines conceptual models, methods, and dimensions of quality of care (QOC) research. Students will analyze the history and rationale of QOC assessment and methodological issues in measuring QOC in research. Prerequisites: Doctoral student status or permission of the instructor, HPMT 6003 and HPMT 6014.
010504	HSRE 9503	INV	Grantsmanship and Funding	COPH 6437	This course provides information and cultivates skills required to develop grant applications supporting health programs and prevention research. Relevant topics include: funding agencies and mechanisms; justifying proposals; rigorous assessment and intervention methods; and working on a research team. Students will gain experience in writing funding proposals and creating program budgets. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; and HPMT 6313:Health Services Research Methods; or permission of instructor.
010505	HSRE 9603	A	Intro to Hlth Care Quality	HPMT 6014	Examines critical issues and processed for the evaluation and management of quality in health care delivery systems. Includes issues related to quality of care in community and clinical settings, customer service definitions and quality improvement in health care organizations. Prerequisites: Doctoral student status or permission of the instructor.

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010506	HSRE 9613	INV	Quality & Outcomes Rsch	HPMT 6315	Examines conceptual models, methods, and dimensions of quality of care (QOC) research. Students will analyze the history and rationale of QOC assessment and methodological issues in measuring QOC in research. Prerequisites: Doctoral student status or permission of the instructor, HPMT 6003 and HPMT 6014.
010507	HSRE 9623	INV	Perform Measure & Incent	HPMT 6317	This course will examine the theoretical constructs and empirical methods currently used to assess, profile and compare the performance of health professionals, health care institutions and health systems. We will examine the advantages and disadvantages of alternative measurement approaches in the context of alternative purposes of measurement, including: quality improvement; regulation and accreditation; payment; consumer education and empowerment; and research and evaluation. The course will examine a number of case studies based on contemporary developments in this field, including the National Quality Forum measurement process, Medicare's quality reporting initiatives, and private sector pay-for-performance programs. The course will also examine approaches for studying the impact of performance measurement, reporting and incentive programs. Pre-requisites: HSRE 9601 and HSRE 9301
010509	HSRE 9643	A	Meth in Hlth Dispar Rsch	HPMT 6327	Examines theory and research on how social, economic, and health system characteristics interact in contributing to racial/ethnic, socioeconomic and gender disparities in health and health care, and covers research methods for investigating the causes and consequences of disparities. Prerequisites: HSRE 9011 and HSRE 9601
010767	HSRE 9653	INV	Implement Change Clin Set	HPMT 6319	Examines the theoretical frameworks relevant for studying diffusion of innovations and implementation of change in clinical practice settings, assesses the empirical evidence on strategies for adopting and implementing change, and considers methods for evaluating change processes.
010510	HSRE 9703	INV	Intro to Health Econ	HPMT 5104	The course provides an overview of economic theory with health care applications. Economics is the study of optimal allocation of scarce resources. Health economics considers the allocation of health care resources to evaluate whether more efficient or equitable distributions can be achieved. Economics concepts and principles will be introduced, followed by the application of these principles to health care, health management, and health policy. Prerequisites: BIOS 5013: Biostatistics I; HPMT 5103: The Health Care System; or permission of instructor.
010512	HSRE 9723	INV	Adv Health Economics I	HPMT 6320	Examines theory and advanced methods for modeling the demand for health, health care, health insurance, and public health activities.
011175	HSRE 9733	A	Adv Hlth Econ II	HPMT 6324	Provides an advanced examination of the supply side of health economics, including theory and research involving the production and distribution of health services and related products and technologies.
010513	HSRE 9743	INV	Pharm-econ & HC Tech Assess	HPMT 6326	The purpose of this course is to provide students with the skills to design, conduct, analyze and rate investigations that assess the value or outcomes of health care technologies with a focus on pharmacy related products and services. The course will also integrate the theoretical prefaces to health care technology as well as provide real world applications using decision modeling software to conduct cost effectiveness and other related studies.
011872	HSRE 9803	INV	Health Care Org Theory	HPMT 6328	This graduate course will explore the scientific study of the components of organizational Theory and research particularly as it relates to healthcare. A useful way to understand organizational theory is the definition offered by Martin Kilduff: Organization theory is a set of approaches to the understanding of how organizations form, survive and grow, interact with each other, recruit and process members, gain and manage resources, and deal with problems both internal and external. Organizational theory is one of the most interesting areas in social science research as we move towards a system-based approach. In each class session, we will examine both important historical contributions and more recent treatments of the topic for the day. Each session may contain both theoretical and empirical contributions. While sessions may differ somewhat in their execution, each session will generally begin with a more general discussion of the components and boundaries of the week's topic. This discussion will be followed by a more in-depth exploration of the articles assigned for the week, where we will explore not just what has been said but also how these theories have been tested.
010326	IBSD 501V	A	Research	IBSD 5101	Students will participate in research projects under the supervision of a faculty member in the Interdisciplinary Biomedical Sciences Graduate Degree Program.
010518	IBSD 600V	A	Masters Thesis	IBSD 5106	Prerequisites: Graduate student standing and preceptor consent.
010519	IBSD 604V	A	Special Topics in IBS	IBSD 6101	(On demand) In-depth study of current topics in biomedical sciences or advanced study of specialized topics not covered elsewhere. Instructional techniques may include directed reading, group discussion, lectures, web-based instruction or other innovative methods. Performance evaluation may be based on participation, graded discussion, student presentations or writing assignments.
010327	IBSD 700V	A	Doctoral Dissertation	IBSD 6201	Prerequisite: Candidacy and Consent
011483	IBSD 5022	A	Animals in Research	IBSD 5103	This course is designed for graduate students or residents whom anticipate working with research animals at some point in their career. The course is an introduction to all components involved in using animals in biomedical research. This course has a wet-lab component which involves animal handling.
010325	IBSD 5051	A	Seminar	IBSD 5102	Students in the Interdisciplinary Biomedical Sciences (IBS) Graduate Degree Program will participate in this course during their first Fall semester. Seminars will be presented by individuals or groups of investigators within the IBS program. These seminars will serve as an introduction to areas of research that are available for student rotations and dissertation projects.
010517	IBSD 5203	A	Clinical Trial Design	IBSD 5104	This course provides students with an opportunity to learn the rationale, planning, design, and conduct of clinical trials. Selection of questions, response variables, phases of trials, study populations, experimental designs, inclusion and exclusion criteria, recruitment, randomization and blinding, sample size calculations, data collection, and quality control, adverse events, reliable and valid measurement of outcomes, and intervention fidelity are demonstrated.
011453	IBSD 5303	A	Hum Neurosci & Neuroimaging	IBSD 5105	This course describes the use of functional neuroimaging (specifically, magnetic resonance imaging) to enhance our understanding of human cognition and psychiatric condition. Lectures will encompass MRI physics, experimental design, neurobiology, and advanced statistical analyses. Computer-based workshops will supplement training in these techniques. Prerequisite: NBDS 5122 or course director's permission.
012397	IBSD 6301	A	MD/PhD Clinical Transitions	IBSD 6102	This course fills a currently unmet need for students in the dual-degree MD/PhD Program. The course will only impact students in the MD/PhD program. No courses will be eliminated if this course is approved. There is no course overlap or duplication.
010329	INTX 501V	INV	Rsch in Pharm & Toxicolog	PCOL 5103	Students will participate in research projects under the supervision of a faculty member.
010345	INTX 700V	INV	Doctoral Dissertation	PCOL 5123	Prerequisite: candidacy and consent
012707	INTX 5033	INV	Prin Mthd Pharm Tox	PCOL 5105	This course offers an overview of the principles and general mechanisms underlying the effects of drugs and chemicals on biological systems. The application of these principles to proper experimental design is also considered.

011290	INTX 6653	A	Clinical Toxicology	PCOL 6102	In this course, students will obtain a basic understanding of the latest developments in clinical toxicology with the emphasis on drug-induced adverse effects and poisonings. Material will be presented in formal lectures and demonstrations. Prerequisite is PCOL 5105 or consent of the course director.
010450	MBIM 508V	A	Rsch Micro & Immun	MBIM 5107	Various areas of experimental microbiology and immunology can be studied under the direction of various graduate faculty members.
010457	MBIM 600V	A	Master's Thesis	MBIM 5201	Prerequisite: graduate standing and consent.
010460	MBIM 700V	A	Doctoral Dissertation	MBIM 6201	Prerequisite: candidacy and consent
010445	MBIM 5003	A	Immunology	MBIM 5101	The fundamentals of immunology are presented with an emphasis on the cellular and molecular basis for understanding current concepts of lymphocyte activation, cytokine activities, and immune disorders. Prerequisite: consent
010446	MBIM 5023	A	Basic Prin of Microbiol	MBIM 5103	A basic understanding of bacteria and viruses is presented. Emphasis in bacteriology will be placed on physiology, replication, and gene exchange in bacteria. Virology will focus on virus replication strategies and pathogenesis. Prerequisite: consent
010448	MBIM 5043	A	Molecular Virology	MBIM 5105	Lectures and assigned readings pertaining to the biochemistry and molecular biology of viruses. Course given in fall semester of alternate years. (alternates with MBIM 5903) Prerequisite: MBIM 5103 or consent of instructor
010449	MBIM 5051	A	Micro & Immun Seminar	MBIM 5106	Required of all students each semester. Students present the results of their thesis or dissertation research. Attendance is required, and participation is essential. Offered on a pass/no pass basis.
010452	MBIM 5201	A	Current Topics in Micro	MBIM 5109	Discussion and advanced study on selected topics of current research importance. Required all semesters for all microbiology students.
010454	MBIM 5211	A	Current Topics in Immun	MBIM 5110	Discussion and advanced study on selected topics of current research importance. Required all semesters for all immunology and immunopathology students.
010455	MBIM 5904	A	Bacterial Gene & Pathogen	MBIM 5111	Lectures and advanced study focusing on molecular approaches used in the study of the interactions between bacteria and humans.
010458	MBIM 6023	A	Molecular Mech in Immun	MBIM 6101	Lectures and discussion of relevant publications will cover specialized topics in immunology, emphasizing molecular aspects of function. Topics will include genetic mechanisms, signal transduction, cytokine function, and autoimmunity. Prerequisite: MBIM 5101 or consent.
010459	MBIM 6033	A	Networks in Immunology	MBIM 6102	Lectures and discussion of relevant publications will cover selected topics in immunology and immunopathology, emphasizing the complex molecular interactions in immunology in the context of disease. Topics include AIDS, neural-immune infections, multiple myeloma, and immune senescence in aging. Prerequisite: MBIM 5101 or consent.
010456	MBIM 6104	A	Molecular Cell Biology	MBIM 6103	Lectures and discussion of relevant publications which cover major processes in cell biology. Classes will emphasize the molecular models and experimental data that describe these cell processes. Topics will include: nuclear import/export, protein secretion and trafficking, endocytosis and exocytosis, cell cycle control, and signal transduction. Pre-requisite: prior course in cell biology or consent; course in biochemistry or molecular biology recommended.
011485	MBIM 6214	A	Adv Micro Immuno Mech	MBIM 6104	These literature-based courses emphasize advanced concepts and critical analysis of three disciplines: Immunology, Virology and Bacteriology. MBIM 6114 (Fall) focuses on basic molecular mechanisms. Prerequisites: MBIM 5103, MBIM 5101
011486	MBIM 6224	A	Adv in Micro Immuno Mech	MBIM 6105	These literature-based courses emphasize advanced concepts and critical analysis of three disciplines: Immunology, Virology and Bacteriology. MBIM 6105 (Spring) focuses on cross- and inter-disciplinary topics in pathogenesis and host defense, using concepts developed in MBIM 6104.
011566	MET 3110	A	Body Fluids Laboratory	MLSC 3111	Laboratory sessions are designed to introduce basic laboratory techniques including but not limited to safety, phlebotomy, pipetting and the use of basic instruments as well as techniques for the analysis of urine, cerebrospinal and other body fluids.
011564	MET 3113	A	Current Topics in MLS	MLSC 3113	A course, which provides a discussion of current issues in medical laboratory science that include but not are limited to ethics, regulations, research, and credentialing. The course will also provide a discussion of teamwork, leadership, and interpersonal skills needed by health care professionals. Prerequisite: Admission to the medical laboratory science professional program.
012697	MET 3120	A	Body Fluids Lab Hybrid	MLSC 3120	Laboratory course to accompany the MLSC 4316 Immunohematology Lecture course for distance students. Emphasis is on testing methods to assure the safe and effective transfusion of blood components. Includes techniques to manage maternal and neonatal blood incompatibilities.
001005	MET 4116	A	Immunohema Lab	MLSC 4116	Laboratory for Immunohematology 4316. Emphasis is on testing methods to assure the safe and effective transfusion of blood components. Includes techniques to manage maternal and neonatal blood incompatibilities.
001006	MET 4117	A	Molecular Diag Lab	MLSC 4117	Laboratory for Molecular Diagnostics 4217. Emphasis on basic molecular techniques such as DNA extraction and quantitation, restriction enzyme digestion, polymerase chain reaction and agarose gel electrophoresis.
011464	MET 4120	A	Phlebotomy	MLSC 4120	Lectures emphasize theory regarding blood collection procedures, and laboratory sessions introduce basic techniques for the collection of blood samples including venipuncture and capillary puncture. Clinical internship consists of supervised practice in the collection of blood samples.
012742	MET 4126	A	Immunohem Lab for Dist	MLSC 4126	Laboratory sessions designed to introduce basic laboratory techniques including but not limited to safety, pipetting, the use of basic instruments as well as techniques for the analysis of urine, cerebrospinal, and other body fluids.
012744	MET 4127	A	Molec Diag Lab for Dist	MLSC 4127	Virtual laboratory experience for off-campus students to accompany MLSC 4217 Molecular Diagnostics course. Using distance learning technologies emphasis will be placed on basic molecular techniques such as DNA extraction and quantitation, restriction enzyme digestion, polymerase chain reaction and agarose gel electrophoresis.
001007	MET 4134	A	Lab Medicine Sem	MLSC 4134	Presentation of laboratory medicine topics by each student and attendance at laboratory seminars presented by others. Requires guided individual investigations.
001008	MET 4135	A	Lab Med Case St Sem	MLSC 4135	Presentation of laboratory medicine case studies to correlate the student's didactic knowledge with the clinical experience.
001009	MET 4138	A	Lab Mgmt I	MLSC 4138	Focuses on knowledge and techniques needed to identify and resolve basic management problems in the laboratory. Topics include basic management concepts, diversity, educational methodologies, laboratory information systems, personnel issues, policies and procedures, finances and budgeting, and compliance.
011497	MET 4145	A	Immu Clin Internship	MLSC 4145	Clinical application of theory and techniques in affiliated institutions. Prerequisites: Admission into the Medical Technology program, successful completion of Clinical Internship I.

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011461	MET 4200	A	Internship Preparation	MLSC 4200	Provides a general overview of clinical internship and internship expectations. Laboratory cases emphasize the application of theoretical knowledge to clinical practice. Laboratory sessions provide a review of major psychomotor techniques in preparation for clinical internships.
001011	MET 4212	A	Hematology Lab	MLSC 4212	Laboratory for Hematology 4312. Emphasis on quantitative and qualitative techniques to evaluate the number, function and morphology of blood cells in bone marrow and peripheral blood. Includes testing methods to diagnose and monitor treatment for hematologic and hemostatic disorders.
011737	MET 4214	A	Parasitology	MLSC 4214	Pathogenic parasites and viruses are covered. Emphasis is on the identification of parasites and the clinical significance of viruses. Epidemiology is included as appropriate.
001012	MET 4215	A	Clin Microbiol Lab	MLSC 4215	Laboratory for the Clinical Microbiology course. Emphasis is on the laboratory procedures for isolating, culturing, and identifying microorganisms.
012746	MET 4216	A	Chem Case Dev & Rev	MLSC 4216	The student will apply the theory and skills acquired from MET 3110 and MET 4514 and gain experience in the analysis of clinical chemistry test results. Students will analyze and correlate the relationship between laboratory results, diagnoses and/or the progression of the disease. In addition to a comprehensive review of all clinical chemistry principles, students will develop a case study that will demonstrate the inter-professional nature of the delivery of health care today and the importance of laboratory results.
001013	MET 4217	A	Molecular Diag	MLSC 4217	Explores the use of molecular techniques for the diagnosis of disease. Includes tests for genetic disorders (both inherited and acquired); infectious diseases, such as HIV and hepatitis C; tissue histocompatibility for organ transplants; and human identity testing.
012698	MET 4222	A	Hematol Lab Hybrid	MLSC 4222	Laboratory course to accompany the MLSC 4312 Hematology Lecture course for distance students. Emphasis on quantitative and qualitative techniques to evaluate the number, function and morphology of blood cells in bone marrow and peripheral blood. Includes testing methods to diagnose and monitor treatment for hematologic and hemostatic disorders.
001014	MET 4223	A	Body Fluids	MLSC 4223	Theory and techniques of analyzing urine, cerebrospinal, synovial, amniotic, and other body fluids. Correlates chemical, cellular, and micro-biological findings in normal and disease states.
004679	MET 4225	INV	Chemistry Internship	MLSC 4314	Supervised clinical internship in the areas of chemistry and urinalysis. Emphasis on automated techniques, quality control, diagnostic correlations, management practices, and development of professional behavior. Practical application of course work in the area of urinalysis. Emphasis on principles, procedures, and quality assurance.
008798	MET 4226	INV	Blood Bank Internship	MLSC 4341	Supervised practical experience in the blood bank laboratory and immunology/serology. Emphasis on principles, procedures, and quality assurance. Includes management practices and development of professional behavior.
011337	MET 4227	INV	Micro Intern	MLSC 4335	Supervised practical experience in the microbiology laboratory. Emphasis on principles, procedures, and quality assurance. Includes management practices and development of professional behavior.
012745	MET 4232	A	Hem Case Dev & Review	MLSC 4232	In MLSC 4232 the student will apply the theory and skills acquired from MLSC 4212 (MLSC 4212) and MLSC 4312 (MLSC 4312) and gain experience in the analysis of clinical hematology test results. Students will analyze and correlate the relationship between laboratory results, diagnoses and /or the progression of the disease. In addition to a comprehensive review of all clinical hematology principles students will develop a case study that will demonstrate the inter-professional nature of the delivery of health care today and the importance of laboratory results.
012748	MET 4235	A	Microbio Case Dev & Rvw	MLSC 4235	The student will apply the theory and skills acquired from MET 4214 and MET 4315 and gain experience in the analysis of clinical microbiology test results. Students will analyze and correlate the relationship between laboratory results, diagnoses and/or the progression of the disease. In addition to a comprehensive review of all clinical microbiology principles, students will develop a case study that will demonstrate the inter-professional nature of the delivery of health care today and the importance of laboratory results.
012747	MET 4236	A	Clin Microbio Lab for DL	MLSC 4236	Laboratory component to accompany MLSC 4315 Clinical Microbiology for distance students. Emphasis on the laboratory procedures for isolating, culturing, and identifying microorganisms.
012749	MET 4241	A	Blood Bank Case Dev & Rvw	MLSC 4241	The student will apply the theory and skills acquired from MET 4316 and MET 4311 and gain experience in the analysis of transfusion services test results. Students will analyze and correlate the relationship between laboratory results, diagnoses and/or the progression of the disease. In addition to a comprehensive review of all transfusion services principles, students will develop a case study that will demonstrate the inter-professional nature of the delivery of health care today and the importance of laboratory results.
001015	MET 4311	A	Immunology	MLSC 4311	Introduction to the mechanisms of normal and abnormal immune response. Emphasis on laboratory diagnosis by agglutination, precipitation, immunofluorescence and enzyme immunoassay.
001016	MET 4312	A	Hematology	MLSC 4312	Normal and abnormal hematopoiesis and hemostasis. Emphasis on recognizing alterations correlating with diagnosis and treatment. Includes quantitation techniques and morphologic evaluation and function of blood cells in bone marrow and peripheral blood.
011514	MET 4313	INV	Clinical Micro	MLSC 4315	Pathogenic microorganisms are covered. Emphasis is on isolation, cultivation, and identification. Fundamental microbiology, epidemiology and pathogenesis are also included as appropriate.
011546	MET 4314	A	Chemistry Internship	MLSC 4314	Supervised clinical internship in the areas of chemistry and urinalysis. Emphasis on automated techniques, quality control, diagnostic correlations, management practices, and development of professional behavior. Practical application of course work in the area of urinalysis. Emphasis on principles, procedures, and quality assurance.
001017	MET 4315	A	Clin Microbiology	MLSC 4315	Pathogenic microorganisms are covered. Emphasis is on isolation, cultivation, and identification. Fundamental microbiology, epidemiology and pathogenesis are also included as appropriate.
001018	MET 4316	A	Immunoematology	MLSC 4316	Study of the immunochemical reactivity of blood antigens and antibodies, blood grouping, and compatibility testing. Includes basic problems relating to hemolytic disease of the newborn and component therapy.
011509	MET 4332	A	Hematol Internship	MLSC 4332	Supervised clinical internship in the area of hematology/coagulation. Emphasis on manual and automated techniques and development of professional behavior. Includes diagnostic correlations, quality assurance, and management practices.
011528	MET 4335	A	Micro Intern	MLSC 4335	Supervised practical experience in the microbiology laboratory. Emphasis on principles, procedures, and quality assurance. Includes management practices and development of professional behavior.
011529	MET 4341	A	BloodBank Intern	MLSC 4341	Supervised practical experience in the blood bank laboratory and immunology/serology. Emphasis on principles, procedures, and quality assurance. Includes management practices and development of professional behavior.
001019	MET 4514	A	Clin Chemistry	MLSC 4514	Detection and quantitation of metabolic compounds of major clinical significance in the diagnosis and treatment of disease. Emphasis on principles of analysis and diagnostic significance on biological constituents.
001021	MET 4535	INV	Microbiology Intrnshp	MLSC 4335	Supervised practical experience in the microbiology laboratory. Emphasis on principles, procedures, and quality assurance. Includes management practices and development of professional behavior.

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001023	MET 4541	INV	Bld Bnk/Imm Intrnshp	MLSC 4341	Supervised practical experience in the blood bank laboratory and immunology/serology. Emphasis on principles, procedures, and quality assurance. Includes management practices and development of professional behavior.
011735	MIS 5V10	INV	Multicultural Health	MISN 5310	This course focuses on differences in cultural beliefs about health and illness and models for cross-cultural health and communication. Students will learn the impact that culture plays on health and effective ways to implement health promotion program and program evaluation across cultures. Online course. Sponsoring department: Imaging & Radiation Sciences, Nuclear Medicine Imaging Sciences
010769	MIS 6V31	A	Research Project I	MISN 5331	Practical experience in conducting research. A written plan describing the project's objectives and goals must be approved by the student's research mentor and program director prior to implementation. The student will submit the completed project for consideration to be published in a peer reviewed journal or to be presented at a professional meeting as a poster or lecture. A minimum of 3 SC in MISN 5331 or in MISN 6543 is required for program completion.
011469	MIS 6V31(3)	INV	Research Project I	MISR 5331	Practical experience in conducting research. A written plan describing the project's objectives and goals must be approved by the student's research mentor and program director prior to implementation. The student will submit the completed project for consideration to be published in a peer reviewed journal or to be presented at a professional meeting as a poster or lecture. A minimum of 3 SC in MISR 5331 or in MISR 5342 is required for program completion.
010770	MIS 6V42	A	Research Project II	MISN 5343	A minimum of 3 SC in this research project course is required for program completion. The research project courses may be taken for up to 6 SC.
011547	MIS 6V42(3)	A	Res Proj II	MISR 5342	A minimum of 3 SC in this research project course is required for program completion. The research project courses may be taken for up to 6 SC.
011734	MIS 4310	INV	Multicultural Health	MISN 5310	This course focuses on differences in cultural beliefs about health and illness and models for cross-cultural health and communication. Students will learn the impact that culture plays on health and effective ways to implement health promotion program and program evaluation across cultures. Online course. Sponsoring department: Imaging & Radiation Sciences, Nuclear Medicine Imaging Sciences
011736	MIS 4323	A	Emer Preparedness	MISN 4323	This course presents an overview of emergency preparedness (EP) from both a public health and health care perspective.
011455	MIS 5261-R	A	Patho & Clinical Correl I	MISR 5261	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of cell function and growth, body defenses, tissue oxygenation, respiratory function, ventilation and its failure, and image correlation focusing on chest and thoracic imaging pathology is included. Moreover, presentation of lymphatic, vascular, and genitourinary functioning is addressed with correlation of imaging findings of representative pathology.
012423	MIS 5262-N	A	Pathophys & Clin Corr II	MISN 5242	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasizes the characteristic manifestations, pattern recognition, and image assessment of pathologies observed in medical images specific to the program track selected.
011456	MIS 5262-R	A	Patho & Clinic Correl II	MISR 5262	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of endocrine, metabolic, and nutritional functions, and associated imaging manifestations of disease are addressed. Neurological processes as well as neuromuscular and musculoskeletal morphology are evaluated with correlation of medical imaging techniques demonstrating pathology. Finally, an overview of skin diseases and an investigation of concepts in pediatric and geriatric imaging as they correlate with radiologic appearance of disease are covered.
011591	MIS 5310	A	Multicul Health	MISN 5310	This course focuses on differences in cultural beliefs about health and illness and models for cross-cultural health and communication. Students will learn the impact that culture plays on health and effective ways to implement health promotion program and program evaluation across cultures. Online course. Sponsoring department: Imaging & Radiation Sciences, Nuclear Medicine Imaging Sciences
004829	MIS 5311	A	Patient Assessment	MISN 5311	Assessment of health status emphasizing cultural, ethnic, and age differences. Focuses on taking patient histories, inspection, palpation, percussion, and auscultation. Body systems and functional health patterns are used to organize data and to develop clinical pathways in medical imaging.
010768	MIS 5315	A	Statistics & Rsch Mtds	MISN 5315	Introduction to research designs, epidemiology, probability, test statistics, sample size, power, correlations, nonparametric tests, regression, and analysis of variance.
011333	MIS 5315-R	A	Statistics & Research Methods	MISR 5315	Introduction to research designs, epidemiology, probability, test statistics, sample size, power, correlations, nonparametric tests, regression, and analysis of variance.
009033	MIS 5321	A	Clin. Pharmacology	MISN 5321	Study of pharmacodynamics, medication administration, drug categories, and implications in patient care. Emphasizes pharmaceuticals frequently used in medical imaging.
011550	MIS 5323	A	Emergency Preparedness	MISN 5323	This course presents an overview of emergency preparedness (EP) from both a public health and health care perspective.
011376	MIS 5341	INV	CT Physics & Instrumentat	MISR 5261	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of cell function and growth, body defenses, tissue oxygenation, respiratory function, ventilation and its failure, and image correlation focusing on chest and thoracic imaging pathology is included. Moreover, presentation of lymphatic, vascular, and genitourinary functioning is addressed with correlation of imaging findings of representative pathology.
011381	MIS 5342	A	Fusion&Hybrid Tech	MISN 5342	The principles and applications of imaging technologies that are complementary to and/or merged with nuclear medicine technology will be presented. Instruction in cross-sectional anatomy will be a significant component of this course.
012777	MIS 5381	A	Imaging of Special Populations	MISR 5381	Imaging of special populations can be challenging. This course is designed to discuss various populations and the imaging techniques needed for them.
007169	MIS 5413	INV	Clin Internship I	MISN 5414	NMAA track emphasizes general nuclear medicine imaging procedures of the pulmonary, endocrine, and skeletal systems.
011263	MIS 5413-N	A	Clin Intern I	MISN 5414	NMAA track emphasizes general nuclear medicine imaging procedures of the pulmonary, endocrine, and skeletal systems.
011551	MIS 5413N-2	INV	Clin Internship II	MISN 5415	NMAA track emphasizes therapeutic and PET imaging procedures.

011282	MIS 5413-R	A	Clin Internship I	MISR 5413	The focus of this clinical internship course is on thoracic and abdominal imaging procedures. Radiologist Assistant (RA) interns are required to document a minimum of 260 clock hours, excluding breaks, in the clinical setting for the clinical internship course. Sixty-five of these 260 hours must be devoted to observing the radiologists' interpretations of images.
008645	MIS 5423	INV	Clin Internship II	MISN 5415	NMAA track emphasizes therapeutic and PET imaging procedures.
011264	MIS 5423-N	A	Clin Intern II	MISN 5415	NMAA track emphasizes therapeutic and PET imaging procedures.
011281	MIS 5423-R	A	Clin Internship II	MISR 5423	The focus of this clinical internship course is on musculoskeletal imaging procedures. Radiologist Assistant (RA) interns are required to document a minimum of 260 clock hours, excluding breaks, in the clinical setting for the clinical internship course. Sixty-five of these 260 hours must be devoted to observing the radiologists' interpretations of images.
011057	MIS 6142	INV	Project II	MISN 5343	A minimum of 3 SC in this research project course is required for program completion. The research project courses may be taken for up to 6 SC.
011242	MIS 6163	A	ADVInd Study-CISkfor RAST	MISR 5163	
011158	MIS 6231	INV	Research Project 1	MISN 5331	Practical experience in conducting research. A written plan describing the project's objectives and goals must be approved by the student's research mentor and program director prior to implementation. The student will submit the completed project for consideration to be published in a peer reviewed journal or to be presented at a professional meeting as a poster or lecture. A minimum of 3 SC in MISN 5331 or in MISN 6543 is required for program completion.
011531	MIS 6242	INV	Pathophysiology II	MISN 5242	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasizes the characteristic manifestations, pattern recognition, and image assessment of pathologies observed in medical images specific to the program track selected.
011521	MIS 6251-R	INV	Path & Clin Corr I	MISR 5261	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of cell function and growth, body defenses, tissue oxygenation, respiratory function, ventilation and its failure, and image correlation focusing on chest and thoracic imaging pathology is included. Moreover, presentation of lymphatic, vascular, and genitourinary functioning is addressed with correlation of imaging findings of representative pathology.
011522	MIS 6252-R	INV	Path & Clin Corr II	MISR 5262	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of endocrine, metabolic, and nutritional functions, and associated imaging manifestations of disease are addressed. Neurological processes as well as neuromuscular and musculoskeletal morphology are evaluated with correlation of medical imaging techniques demonstrating pathology. Finally, an overview of skin diseases and an investigation of concepts in pediatric and geriatric imaging as they correlate with radiologic appearance of disease are covered.
009914	MIS 6331	INV	Research Project	MISN 5331	Practical experience in conducting research. A written plan describing the project's objectives and goals must be approved by the student's research mentor and program director prior to implementation. The student will submit the completed project for consideration to be published in a peer reviewed journal or to be presented at a professional meeting as a poster or lecture. A minimum of 3 SC in MISN 5331 or in MISN 6543 is required for program completion.
011716	MIS 6331-N	INV	Res Project I	MISN 5331	Practical experience in conducting research. A written plan describing the project's objectives and goals must be approved by the student's research mentor and program director prior to implementation. The student will submit the completed project for consideration to be published in a peer reviewed journal or to be presented at a professional meeting as a poster or lecture. A minimum of 3 SC in MISN 5331 or in MISN 6543 is required for program completion.
011504	MIS 6331-R	A	Research Proj I	MISR 5331	Practical experience in conducting research. A written plan describing the project's objectives and goals must be approved by the student's research mentor and program director prior to implementation. The student will submit the completed project for consideration to be published in a peer reviewed journal or to be presented at a professional meeting as a poster or lecture. A minimum of 3 SC in MISR 5331 or in MISR 5342 is required for program completion.
009912	MIS 6341	INV	Pathophysiology	MISR 5261	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of cell function and growth, body defenses, tissue oxygenation, respiratory function, ventilation and its failure, and image correlation focusing on chest and thoracic imaging pathology is included. Moreover, presentation of lymphatic, vascular, and genitourinary functioning is addressed with correlation of imaging findings of representative pathology.
011297	MIS 6341-N	INV	Path & Correlation	MISR 5261	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of cell function and growth, body defenses, tissue oxygenation, respiratory function, ventilation and its failure, and image correlation focusing on chest and thoracic imaging pathology is included. Moreover, presentation of lymphatic, vascular, and genitourinary functioning is addressed with correlation of imaging findings of representative pathology.
011396	MIS 6342	INV	Research Project II	MISN 5343	A minimum of 3 SC in this research project course is required for program completion. The research project courses may be taken for up to 6 SC.
012421	MIS 6343-N	INV	Path & Clin Correlation	MISR 5261	Application of the concepts of pathophysiology for the assessment and management of medical imaging patients. Emphasis is placed on physiologic processes that contribute to understanding disease manifestation. An overview of endocrine, metabolic, and nutritional functions, and associated imaging manifestations of disease are addressed. Neurological processes as well as neuromuscular and musculoskeletal morphology are evaluated with correlation of medical imaging techniques demonstrating pathology. Finally, an overview of skin diseases and an investigation of concepts in pediatric and geriatric imaging as they correlate with radiologic appearance of disease are covered.
007170	MIS 6351	A	HlthCR Sys In America	MISR 5351	Analysis of the health care services provided within the United States. The evolution, structure, financing, and regulation of the nation's health care institutions will be covered. In addition, ethics and legal issues related to the health professions will be studied.

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011793	MIS 6351-N	INV	Hlthcare Sys in Amer	MISR 5351	Analysis of the health care services provided within the United States. The evolution, structure, financing, and regulation of the nation's health care institutions will be covered. In addition, ethics and legal issues related to the health professions will be studied.
011592	MIS 6363	INV	ADVIndSt-CISkforRAST	MISR 5163	
009032	MIS 6433	INV	Clin. Internship III	MISN 5433	NMAA track emphasizes general nuclear medicine imaging procedures of the gastrointestinal, genitourinary, and neurological systems.
011265	MIS 6433-N	A	Clin Intern III	MISN 5433	NMAA track emphasizes general nuclear medicine imaging procedures of the gastrointestinal, genitourinary, and neurological systems.
011280	MIS 6433-R	A	Clin Internship III	MISR 5433	The focus of this clinical internship course is on gastrointestinal and genitourinary imaging procedures. Radiologist Assistant (RA) interns are required to document a minimum of 260 clock hours, excluding breaks, in the clinical setting for the clinical internship course. Sixty-five of these 260 hours must be devoted to observing the radiologists' interpretations of images.
009913	MIS 6443	INV	Clinical Internship IV	MISR 5443	RA track emphasizes invasive imaging procedures.
011266	MIS 6443-N	A	Clin Intern IV	MISN 5443	NMAA track emphasizes cardiac imaging procedures and stress testing.
011279	MIS 6443-R	A	Clin Internship IV	MISR 5443	RA track emphasizes invasive imaging procedures.
010672	MIS 6453	A	Clinical Internship V	MISN 5453	NMAA track emphasizes administrative procedures and specialized modalities.
011548	MIS 6453N	INV	Clin Internship V	MISN 5453	NMAA track emphasizes administrative procedures and specialized modalities.
011267	MIS 6453-N	INV	Clin Intern V	MISN 5453	NMAA track emphasizes administrative procedures and specialized modalities.
011278	MIS 6453-R	A	Clin Internship V	MISR 5453	RA track emphasizes specialized modalities.
012779	MLSC 3214	A	Curr Topics in MLS	MLSC 3214	This course provides a discussion of current issues in medical laboratory science that include but not limited to lab safety, QA and QC, Lab Math, ethics, professionalism, Inter-professional education (IPE), government regulations, research, and credentialing. This course will also provide a discussion of teamwork, leadership and interpersonal skills needed by health care professionals. Prerequisite: Admission to the medical laboratory science professional program.
012778	MLSC 4100	A	Community Clinical Experience	MLSC 4100	This course provides an avenue to expand clinical experience and knowledge base of students as it relates to community and service.
009987	N 404V	A	Special Topics	NURS 4717	One to six hours credit depending on the nature and extent of the topic. The course is designed to encourage creative independent study and will be supervised by a faculty preceptor. Prerequisite: Permission of the Dean
009968	N 3305	A	Fnds Prof Nsg I Th &P	NURS 3110	This course explores concepts, theories, and principles inherent in the roles and competencies of the professional nurse and applies this knowledge to practice. Identified basic human needs, the nursing process and basic nursing skills are presented and used to guide professional nursing practice in simulated and clinical setting. 90 hours of clinical practice.
011542	N 3312	A	Clinical Pharmacology I	NURS 3111	An introduction to pharmacotherapeutics, medication administration, major drug classifications, and the implications of medication administration for nursing care. Pre-requisites: NURS 3310 and NURS 3312. Co-requisites: NURS 3215, NURS 3116, and NURS 3118.
009969	N 3313	INV	Health Assessment	NURS 3112	Students learn to conduct a complete health assessment with emphasis on normal findings as well as cultural, ethnic, and age variations. Students develop the skills of history taking, inspection, palpation, percussion, and auscultation using body systems to organize data. 90 hours of clinical practice.
011543	N 3322	A	Clinical Pharmacology II	NURS 3212	Builds on knowledge from NURS 3111, focusing on selected drug classifications. Relates principles of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics to drug therapy. Emphasizes application of knowledge in nursing care. Prerequisites: NURS 3110, NURS 3111, NURS 3112, NURS 3215. Corequisites: NURS 3116, NURS 3117, and NURS 3118
011800	N 3332	A	Ldrship & Prof in Nsg Prc	NURS 4114	Addresses professional development needed to enhance nursing practice. Prerequisites: All Junior level courses. Co-requisites: NURS 4212 and NURS 4213.
009973	N 3335.5	A	Fndtns II Thry & Pract	NURS 3215	Further develops the professional role through integration of content with previous courses. Introduces care of the family, perioperative nursing, planning and implementation of patient care and basic illness by system. All learned skills are performed in simulated and clinical settings. Uses the nursing process to provide nursing care to clients across the lifespan. 112.5 hours of clinical practice. Prerequisites: NURS 3110, NURS 3112.
009974	N 3345.5	A	Nsg Care Chldbr Thr &P	NURS 3116	Provides a theoretical basis for professional nursing practice with childbearing families. Addresses and applies the nursing process to women's health with emphasis on childbearing as a family experience. 112.5 hours of clinical practice. Prerequisites: NURS 3110, NURS 3112, NURS 3215.
012758	N 3352	A	Ther Comm & Mental Health Nurs	NURS 3211	Identify mental health nursing services and apply to individuals, families and communities with an emphasis on communication, health issues, critical thinking, ethics and professional role development. Pre-requisites: N3305, N3316 and N3335.5. Co-requisite: other junior level courses.
009975	N 3355.5	A	Nursing Care of Children	NURS 3117	Provides theoretical and clinical basis for professional nursing practice with children and their families. Emphasis is placed on development and responses to illness. Utilizes the nursing process in clinical setting while providing family-centered care congruent with age, stage of growth and development, and health status. 112.5 hours of clinical practice. Prerequisites: NURS 3110, NURS 3112, and NURS 3215. Co-requisite: Junior level courses.
011371	N 4041.5	INV	Special Topics	NURS 4717	One to six hours credit depending on the nature and extent of the topic. The course is designed to encourage creative independent study and will be supervised by a faculty preceptor. Prerequisite: Permission of the Dean
010704	N 4041.A	INV	ST: Leadership Development	NURS 4717	One to six hours credit depending on the nature and extent of the topic. The course is designed to encourage creative independent study and will be supervised by a faculty preceptor. Prerequisite: Permission of the Dean
010709	N 4041.B	INV	ST: Transfer Orientation	NURS 4717	One to six hours credit depending on the nature and extent of the topic. The course is designed to encourage creative independent study and will be supervised by a faculty preceptor. Prerequisite: Permission of the Dean
011243	N 4041.D	INV	Foundations II Transition	NURS 4717	One to six hours credit depending on the nature and extent of the topic. The course is designed to encourage creative independent study and will be supervised by a faculty preceptor. Prerequisite: Permission of the Dean
010998	N 4042	A	Summer Extern Prgm & Role	NURS 4015	
011418	N 4042.A	INV	ST: Cult Comp in 21st Cen	NURS 4717	One to six hours credit depending on the nature and extent of the topic. The course is designed to encourage creative independent study and will be supervised by a faculty preceptor. Prerequisite: Permission of the Dean
011424	N 4142.5	A	Independent Study	NURS 4910	

011801	N 4403	A	Intro Rsch & Evid Base P	NURS 4111	Introduction to research methodology, critical appraisal of research literature, application of findings to nursing practice, and identification of clinical problems for study. Prerequisites: All Junior level courses. Co-requisite: NURS 4211 and NURS 4112.
009980	N 4415	A	Comm Hlth Nsg Thy & Prc	NURS 4112	Explores public health practice with individuals, families, groups, and communities in selected settings. 90 hours of clinical practice. Prerequisites: All Foundation Level and Junior level courses.
009982	N 4455	A	Nsg Care Oldr Adlt T & P	NURS 4211	Addresses developmental tasks and responses to changes in health status. Nursing process is applied to the care of diverse older adult patients and families. 90 hours of clinical practice. Prerequisites: All Foundation level and Junior level courses.
011887	N 4456	A	CareMgmtAdults	NURS 4212	Explores the care of groups of patients and their families by further obtaining knowledge in nursing and applying that knowledge and critical thinking to clinical experiences. Emphasis is on the care of groups of patients in the medical-surgical environment. Transition from student role to nurse generalist role is emphasized. Prerequisites: All Foundation level and Junior level courses.
011886	N 4466	A	AcuteCareAdults	NURS 4213	Explores the theoretical, scientific, and professional basis of nursing care of complex patients and their families. Clinical experiences provide students with opportunities to understand and apply the role of the nurse generalist in coordination of care of adults and their families in a critical care setting. Prerequisites: All Foundation level and Junior level courses.
011541	N 4961	A	Senior Capstone	NURS 4911	This course prepares students to take the NCLEX-RN examination by reviewing knowledge and skills presented in previous courses. Prerequisites: All Foundation Level and Junior Level Courses.
010359	NBDS 513V	A	Research	NBDS 5118	Credits to be arranged.
011510	NBDS 525V	A	Special Topics NBDS	NBDS 5125	This course gives in-depth consideration of topics of current research significance and specialized subjects that are not covered in general courses. Topics vary by year. Representative topics include: cellular neuroscience, neuroendocrinology, neurodegeneration, and glial biology. May be taken for multiple credits to a maximum of 6 hours.
010362	NBDS 600V	A	Master's Thesis	NBDS 5127	Prerequisite: graduate standing and consent.
010366	NBDS 700V	A	Doctoral Dissertation	NBDS 6201	Prerequisite: candidacy and consent.
010348	NBDS 5026	A	Microscopic Anatomy	NBDS 5104	Development, structure, and function of the tissues and organs of the human body. This course uses lectures, discussion groups, study of tissue sections and computer-assisted instruction. Prerequisite: consent of the Course Director.
011479	NBDS 5033	A	Basic Neuroscience	NBDS 5106	This course focuses on four aspects of neuroscience: a) sensory systems, b) motor systems, c) regulatory systems, and d) behavioral and cognitive systems. Prerequisite: consent of the Course Director.
010351	NBDS 5071	A	Neurophy of Vol Move	NBDS 5108	An up-to-date review of neurophysiological, neurobehavioral and neuropharmacological techniques being applied to the motor system. Readings on the role of cortex, basal ganglia, cerebellum and locomotor regions will be assigned preceding each two hour session of lecture and discussion. Discussion is graded. One written paper or an oral presentation are required by each student. Prerequisite: Basic Neuroscience (NBDS 5106) or equivalent neurophysiology or physiological psychology course.
010352	NBDS 5081	A	Cur Top in Neurobiology	NBDS 5109	Topics will be chosen to reflect important current research in neurophysiology, neuroanatomy and transmitter substances. Students will read original papers, review articles and make presentations for discussion. Grades will be based on presentations, participation and a written paper. Prerequisite: NBDS 5106, NBDS 5114 or permission.
011149	NBDS 5093	A	Cell Biology	NBDS 5111	The structure and function of cells and cellular organelles with particular attention to how these interact in larger units of organization. Prerequisite: Previous or current course in Biochemistry.
010355	NBDS 5103	A	Cell/Dev NeuroScience	NBDS 5114	This course consists of lectures, assigned readings and student presentations that cover the structure, function and development of cells of the nervous system, the basic principles of the physiology of excitable cells, and synaptic transmission.
010358	NBDS 5121	A	Seminar	NBDS 5116	
010527	NBDS 5142	A	Fundamentals for Neuroscience	NBDS 5119	This course presents the basic anatomical concepts needed for understanding more advanced neuroscience courses. This course will place the central and peripheral nervous systems into the larger anatomical framework of the human body. It will cover the neural aspects of histology, embryology, radiology, cranial nerves, body cavities, and head and neck anatomy. Prerequisite: undergraduate basic science background helpful.
010528	NBDS 5153	A	Systems Neuroscience	NBDS 5122	In this course neurons and glial cells, neurotransmitters, and receptors are incorporated into components of the nervous system. Some of these components are the somatosensory, visual, auditory, voluntary motor, and autonomic motor systems. The course mainly explores the human nervous system but principles are applicable to a wide spectrum of animals. Prerequisite: consent of the Course Director.
011322	NBDS 5161	A	Neuronal Signals	NBDS 5123	This course critically reviews advanced techniques for recording and analyzing neuronal activity such as patch clamping and imaging neuronal networks with calcium and voltage-sensitive dyes. Prerequisites: Basic Neuroscience (NBDS 5106), or laboratory experience using electrophysiology or imaging, and consent of the Course Director.
010363	NBDS 6001	A	Cur Top in Signal & Devel	NBDS 5126	This course explores fundamental topics in molecular development, including homeotic genes, axial patterning, signaling mechanisms in developmental decisions, mesoderm induction, limb development apoptosis and disease pathologies. The course takes the form of student discussion of current papers from the literature.
012399	NBDS 6103	A	Human Development	NBDS 5124	This course explores the processes of human development, including gametogenesis, fertilization, embryogenesis, organogenesis and fetal growth. Discussions include specialized development of organ systems, congenital malformations, teratogenesis and principles of development. Prerequisites: Consent of instructor.
010778	NMIS 4V41	A	Clinical Internship IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
010743	NMIS 4115	A	Radiopharmacy I	NMIS 4115	Radiopharmaceutical preparation for diagnostic use to include quality control. Chemical, physical, and biological properties of radiopharmaceuticals will be examined.
010745	NMIS 4116	A	Jour. Review/Rsch Methods	NMIS 4116	Critical evaluation of medical scientific literature to include statistical evaluation methods and presentation techniques.
010842	NMIS 4125	INV	Radiopharmacy II	NMIS 4225	Radiopharmaceutical preparation for diagnostic use, to include quality control. Chemical, physical, and biological properties of radiopharmaceuticals will be examined. Prerequisite: NMIS 4115.
010739	NMIS 4211	A	Intro. Nuclear Medicine	NMIS 4211	Survey course for all phases of nuclear medicine technology.
010741	NMIS 4213	A	Nuclear Physics	NMIS 4213	Presents concepts and physical properties governing the atom to include systems and units of measurement, atomic and nuclear structure, particulate and electro-magnetic radiation.
010742	NMIS 4214	A	Instrumentation I	NMIS 4214	Operational principles of radiation detection equipment to include statistical applications and quality control.

010837	NMIS 4221	A	Health Physics	NMIS 4221	Legal, biological, and administrative aspects of radiation protection in nuclear medicine. Emphasis on practical means of minimizing radiation exposure to the patient, nuclear medicine staff, and the general public. Prerequisite: NMIS 4213.
010839	NMIS 4223	A	Instrumentation II	NMIS 4223	Advanced application of radiation detection theory and instrumentation. Prerequisite: NMIS 4214.
010840	NMIS 4224	A	Radiation Biology	NMIS 4224	A study of the interactions of ionizing radiation with human tissues and the potential biological effects resulting from such interactions.
011428	NMIS 4225	A	Radiopharmacy II	NMIS 4225	Radiopharmaceutical preparation for diagnostic use, to include quality control. Chemical, physical, and biological properties of radiopharmaceuticals will be examined. Prerequisite: NMIS 4115.
011100	NMIS 4241	INV	Clin Intern IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
011556	NMIS 4242	A	CT Phys & Inst	NMIS 4242	A study of the physics and instrumentation of computed tomography, computed tomographic image formation, and radiation dose and safety concerns.
011373	NMIS 4302	A	Inter Diag Cardiac Imag	NMIS 4302	This course provides the student with an understanding of the major modalities for the diagnostic imaging of the human heart. Included are overviews of the methods, effectiveness, advantages and disadvantages of echocardiography, nuclear medicine, magnetic resonance, computerized tomography, and cardiac catheterization for the diagnosis of heart disease.
011374	NMIS 4303	A	Clinical Pharmacology	NMIS 4303	A study of pharmacodynamics, medication administration, drug categories, and implications in patient care. Emphasizes pharmaceuticals frequently used in medical imaging.
011590	NMIS 4310	A	Multicultural Health	NMIS 4310	This course focuses on differences in cultural beliefs about health and illness and models for cross-cultural health and communication. Students will learn the impact that culture plays on health and effective ways to implement health promotion program and program evaluation across cultures. Online course. Sponsoring department: Imaging & Radiation Sciences, Nuclear Medicine Imaging Sciences
010740	NMIS 4312	A	Clin. Proc. & Diag. I	NMIS 4312	Current uses of radiopharmaceuticals for organ visualization and function with evaluation of results for diagnostic value. Emphasis placed on in vivo procedures.
010838	NMIS 4322	A	Clin Proc & Diagnosis II	NMIS 4322	Continued study of application of radiopharmaceuticals for diagnostic use. In vitro and therapeutic procedures are introduced. Prerequisite: NMIS 4312.
010902	NMIS 4341	INV	Clinical Internship IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
011458	NMIS 4384	INV	CT Physics & Instrumentat	NMIS 4242	A study of the physics and instrumentation of computed tomography, computed tomographic image formation, and radiation dose and safety concerns.
011557	NMIS 4431	A	Clin. Internship III	NMIS 4431	Continuation of clinical course work at the advanced level. Prerequisite: NMIS 4524.
010744	NMIS 4517	A	Clinical Internship I	NMIS 4517	Practical application of course work presented in the classroom. Students are assigned educational experiences in clinical imaging, radioimmunoassay, and radiopharmaceutical preparation.
010841	NMIS 4524	A	Clinical Internship II	NMIS 4524	Continuation of clinical course work at the intermediate level. Prerequisite: NMIS 4517.
010979	NMIS 4631	INV	Clin Internship III	NMIS 4431	Continuation of clinical course work at the advanced level. Prerequisite: NMIS 4524.
012692	NMIS 4641	INV	Clin. Internship IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
002324	NMT 4V41	INV	Clin Internship IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
001030	NMT 4115	INV	Radiopharmacy I	NMIS 4115	Radiopharmaceutical preparation for diagnostic use to include quality control. Chemical, physical, and biological properties of radiopharmaceuticals will be examined.
001031	NMT 4116	INV	Jrnl Rev/Rs Mthd	NMIS 4116	Critical evaluation of medical scientific literature to include statistical evaluation methods and presentation techniques.
001032	NMT 4125	INV	Radiopharmacy II	NMIS 4225	Radiopharmaceutical preparation for diagnostic use, to include quality control. Chemical, physical, and biological properties of radiopharmaceuticals will be examined. Prerequisite: NMIS 4115.
001033	NMT 4211	INV	Intro Nuclear Med	NMIS 4211	Survey course for all phases of nuclear medicine technology.
011105	NMT 4212	INV	Clinical Proc & Diag I	NMIS 4312	Current uses of radiopharmaceuticals for organ visualization and function with evaluation of results for diagnostic value. Emphasis placed on in vivo procedures.
001034	NMT 4213	INV	Nuclear Physics	NMIS 4213	Presents concepts and physical properties governing the atom to include systems and units of measurement, atomic and nuclear structure, particulate and electro-magnetic radiation.
001035	NMT 4214	INV	Instrumentation I	NMIS 4214	Operational principles of radiation detection equipment to include statistical applications and quality control.
011111	NMT 4215	INV	Radiopharmacy	NMIS 4115	Radiopharmaceutical preparation for diagnostic use to include quality control. Chemical, physical, and biological properties of radiopharmaceuticals will be examined.
001036	NMT 4221	INV	Health Physics	NMIS 4221	Legal, biological, and administrative aspects of radiation protection in nuclear medicine. Emphasis on practical means of minimizing radiation exposure to the patient, nuclear medicine staff, and the general public. Prerequisite: NMIS 4213.
001037	NMT 4223	INV	Instrumentation II	NMIS 4223	Advanced application of radiation detection theory and instrumentation. Prerequisite: NMIS 4214.
001038	NMT 4224	INV	Radiation Biology	NMIS 4224	A study of the interactions of ionizing radiation with human tissues and the potential biological effects resulting from such interactions.
003720	NMT 4241	INV	Clinical Practicum IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
001039	NMT 4312	INV	Clin Proc/Diag I	NMIS 4312	Current uses of radiopharmaceuticals for organ visualization and function with evaluation of results for diagnostic value. Emphasis placed on in vivo procedures.
001040	NMT 4322	INV	Clin Proc/Diag II	NMIS 4322	Continued study of application of radiopharmaceuticals for diagnostic use. In vitro and therapeutic procedures are introduced. Prerequisite: NMIS 4312.
004607	NMT 4341	INV	Clin Practicum IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
001041	NMT 4517	INV	Clin Internship I	NMIS 4517	Practical application of course work presented in the classroom. Students are assigned educational experiences in clinical imaging, radioimmunoassay, and radiopharmaceutical preparation.
001042	NMT 4524	INV	Clin Internship II	NMIS 4524	Continuation of clinical course work at the intermediate level. Prerequisite: NMIS 4517.
001043	NMT 4631	INV	Clin Internship III	NMIS 4431	Continuation of clinical course work at the advanced level. Prerequisite: NMIS 4524.
002563	NMTT 4241	INV	Clinical Practicum IV	NMIS 4741	Based on individual needs and prior clinical experiences, the student may elect to continue clinical course work at the advanced level. Prerequisite: consent of the faculty.
012453	NURS 3112	A	Patho Basis Health Assmt	NURS 3112	Students learn to conduct a complete health assessment with emphasis on normal findings as well as cultural, ethnic, and age variations. Students develop the skills of history taking, inspection, palpation, percussion, and auscultation using body systems to organize data. 90 hours of clinical practice.
011073	NUSC 544V	A	Special Topics	NURS 5791	

012740	NUSC 553V	A	Tran to AGPC Practicum	NURS 5341	Provides the evidenced-based clinical foundation for advanced practice registered nurse in adult-gerontology primary care. Management of commonly occurring chronic, complex alterations in health patterns, health promotion, screening and early detection, and delivery of cost-effective, high quality care are emphasized for adults across the lifespan. Variable clinical hours 90 to 270. Pre-requisites: none; Co-requisites: NURS 5343; Students must complete a Master's of Science Degree in Nursing in the specialty of Gerontological Nurse Practitioner program and currently or previously certified as a GNP-BC. Students must have evidence of the Advanced Pathophysiology, Advanced Pharmacology, and Advanced Health Assessment as determined by the GAP analysis according to the National Organization of Nurse Practitioner Faculties (NONPF) and the National Task Force (NTF, 2012).
010962	NUSC 554V	INV	Special Topics	NURS 5791	
010963	NUSC 555V	INV	Independent Study	NURS 5801	Provides opportunity to pursue study to meet individual student needs. May repeat to a maximum of 6 credit hours. Pre-requisite: Consent.
012610	NUSC 581V	A	Tran to Adult/Geron ACNP	NURS 5182	This post-master's course provides the evidenced-based clinical foundation for advanced practice registered nurse in adult-gerontology acute care nursing. Management of commonly occurring acute, chronic, complex alterations in health patterns, health promotion, screening and early detection, and delivery of cost effective, high-quality care are emphasized for adults across the life span. Variable clinical hours 90 to 270.
010055	NUSC 598V	A	Nsg Reseach Practicum	NURS 5304	Participation in a nursing research project under direction of a faculty advisor. Prerequisite: NURS 5101, NURS 5100 and first clinical theory and practicum courses or two administration courses. Co-requisite: Approved project advisor.
010058	NUSC 604V	A	Topics in Nursing (1 6)	NPHD 6111	Discussion and advanced study on selected topics not covered in general courses. May repeat up to a maximum of 6 credit hours. Prerequisite: Consent.
010059	NUSC 605V	A	Independent Study	NPHD 6101	Provides opportunity to pursue study to meet individual student needs. May repeat to a maximum of 6 credit hours. Prerequisite: Consent.
010529	NUSC 700V	A	Doctoral Dissertation	NPHD 6202	Prerequisite: Candidacy and consent.
012411	NUSC 706V	A	Indep Study	NURS 5801	Provides opportunity to pursue study to meet individual student needs. May repeat to a maximum of 6 credit hours. Pre-requisite: Consent.
009988	NUSC 5003	A	Theory in Nursing	NURS 5100	Exploration of the nature of theory development in nursing, analysis of selected nursing and related theories, and the relevance of theory to research, practice and education in the field of nursing.
009989	NUSC 5013	A	Research Methodology	NURS 5101	Focuses on the process of scientific inquiry including scientific, pragmatic, and ethical issues of conducting research. Emphasis is on understanding research methodology, statistical methods and related concepts, and evaluating scientific integrity of nursing literature.
011698	NUSC 5023	A	Rsch. In Adv Nsg. Pract.	NURS 5201	Preparation for responsible integration of research findings into advanced nursing practice. Prerequisite: NURS 5101 or consent.
009992	NUSC 5033	A	Adv Physio & Pathophys	NURS 5102	Exploration of the mechanisms and concepts of human physiology providing the scientific rationale for seeking and interpreting physiological data in the planning and management of nursing care.
009993	NUSC 5043	A	Clin Pharm Ther Practice	NURS 5103	Emphasis is on the clinical pharmacological management of selected primary health care problems of clients and their families across the lifespan.
009995	NUSC 5052	A	Com Cpts Adv Practice Nsg	NURS 5104	An analysis of both community oriented principles and health promotion strategies that are critical in implementing the advanced practice nursing role.
009996	NUSC 5063	A	Theo Found for Nsg Ed	NURS 5175	Analysis of selected relevant research and theory in the design of nursing curricula. Teaching/learning principles, measurement theory and evaluation processes are included to facilitate meeting the educational needs for client/teaching, staff education or nursing students.
011780	NUSC 5073	A	Nursing Ed Practicum	NURS 5395	Preceptor and faculty guided experiences in nursing education to meet individual student needs. Students may select clinical experiences in client-teaching, staff education or formal nursing programs. 135 hours of practicum Pre-requisite: NURS 5175.
009999	NUSC 5083	A	Tech in Adult Education	NURS 5176	Analysis of theoretical foundations of technology-based education as applied to the adult learner. Principles of self-directed learning, course design to enhance self-direction, and faculty role are explored. Various media will be evaluated for the effective and efficient delivery of educational resources important to the adult learner. Prerequisite: NURS 5175 or consent.
010000	NUSC 5093	A	Technology Practicum	NURS 5177	Guided experiences in technology-based education (TBE). Students will have experiences in developing TBE for both degree-seeking and continuing education adult learners. Pre or Co-requisite courses: NURS 5176.
010001	NUSC 5111	A	Intro to Prof Pract Mgmt	NURS 5202	Discussion and analysis regarding the evolution of contemporary advanced practice nursing (APRN). Topics include, but are not limited to, historical development of the APRN role, legislative authority defining scope of practice, health care delivery systems, and professional liability. Course content is designed to facilitate student's APRN role assimilation.
010002	NUSC 5121	A	Adv Prof Practice Mgmt	NURS 5203	Discussion and analysis regarding practice management of contemporary advance practice nursing (APRN). Topics include, but are not limited to, QA/risk management, reimbursement, coding, APRN contract negotiation, health policy formulation, state cross-border practice differences, and professional advocacy. Course content is designed to facilitate student's postgraduate implementation of the APRN role. Pre-requisite: NURS 5202. Co-requisite: Concurrent enrollment in one clinical course in specialty (advanced health assessment excluded).

					<p>This post-masters course assists certified (Adult) Psychiatric Mental Health Nurse Practitioners to transition to the role of Psychiatric Mental Health Nurse Practitioner (across the lifespan) through synthesis of evidence-based clinical knowledge for the development of advanced skills in psychiatric assessment and treatment of children and adolescents experiencing mental health and behavioral problems. The course explores diagnosis, therapeutic and pharmacological treatment, and management of pediatric mental health disorders, as well as assessment and treatment of abuse and neglect as it occurs in the pediatric population.</p> <p>This post-masters course assists certified (Adult) Psychiatric Mental Health Nurse Practitioners to transition to the role of Psychiatric Mental Health Nurse Practitioner (across the lifespan) through synthesis of evidence-based clinical knowledge for the development of advanced skills in psychiatric assessment and treatment of children and adolescents experiencing mental health and behavioral problems. The course explores diagnosis, therapeutic and pharmacological treatment, and management of pediatric mental health disorders, as well as assessment and treatment of abuse and neglect as it occurs in the pediatric population.</p> <p>This post-masters course assists certified (Adult) Psychiatric Mental Health Nurse Practitioners to transition to the role of Psychiatric Mental Health Nurse Practitioner (across the lifespan) through synthesis of evidence-based clinical knowledge for the development of advanced skills in psychiatric assessment and treatment of children and adolescents experiencing mental health and behavioral problems. The course explores diagnosis, therapeutic and pharmacological treatment, and management of pediatric mental health disorders, as well as assessment and treatment of abuse and neglect as it occurs in the pediatric population.</p>
012780	NUSC 5152	A	Trans Ped Psych Mntl Hlth Th	NURS 5152	
012781	NUSC 5153	A	Trans Ped Psych Mntl Hlth Pr	NURS 5153	<p>This post-masters course assists certified (Adult) Psychiatric Mental Health Nurse Practitioners to transition to the role of Psychiatric Mental Health Nurse Practitioner (across the lifespan) through synthesis of evidence-based clinical knowledge and application of clinical skills in psychiatric mental health care of children and adolescents experiencing mental health and behavioral problems. Clinical experiences focus on the management of mental health conditions affecting children and adolescents in the context of family, cultural diversity, and practice settings.</p>
010003	NUSC 5163	A	Into to Forensic Nsg	NURS 5204	<p>Introduces graduate nursing students to the principles of forensic nursing. The nursing care of three patient populations, including children who are abused, men and women who are sexually assaulted and battered, and men and women, who commit these crimes, will be the focus of the course. Prerequisite: Consent</p>
000171	NUSC 5173	A	Quant Epi I	NURS 5205	<p>This course is an introduction to the history and methods of epidemiology. Specific areas of acute and chronic disease epidemiology illustrate epidemiologic methods such as risk factor analysis, surveillance systems, and etiology of disease. Quantification of morbidity and mortality within populations is addressed. Students are given an overview of study design, data analysis, and inferences to evaluate epidemiologic studies for relevance for application to practice.</p>
010006	NUSC 5193	A	Tobacco Cess for Clinicia	NURS 5206	<p>Provides health care professionals with the necessary knowledge and skills for providing comprehensive tobacco cessation counseling to patients who use tobacco across the lifespan. Prerequisite: Consent</p>
010007	NUSC 5201	A	Adv Hlth Asm/DX Res Pract	NURS 5306	<p>Performance and interpretation of assessment and diagnostic techniques for advanced registered nursing practice in selected areas of practice. The practicum experience is focused by specialty with individuals across the age span. This course is the first in the sequence of clinical courses, and is pre-requisite to other clinical courses. Pre- or Co-requisite: NURS 5103, NURS 5012. Co-requisite: NURS 5305.</p>
011201	NUSC 5211	A	Adv Ped Hlth Ass & Diag P	NURS 5121	<p>Performance and interpretation of assessment and diagnostic techniques for advanced nursing practice in the pediatric specialty. This course is the first in the sequence of clinical courses and is pre-requisite to other clinical courses. Pre- or Co-requisite: NURS 5103, NURS 5102, NURS 5120. Admission to one of the pediatric clinical specialties of the graduate program.</p>
010008	NUSC 5222	A	Adv Hlt Asm/Dx Res Theory	NURS 5305	<p>Synthesizes interviewing, health history, and physical examination skills; laboratory/diagnostic data collection and interpretation; diagnostic reasoning and clinical decision-making for advanced nursing practice in a variety of settings. Considerations for assessment of infants, children, adults, and older adults are addressed. This course is the first in the sequence of clinical courses and is pre-requisite to other clinical courses. Prerequisite: Admission to one of the clinical specialties of the graduate program. Pre- or Co-requisites: NURS 5103, NURS 5102.</p>
011200	NUSC 5232	A	Adv Ped Hlth Ass & Diag T	NURS 5120	<p>Synthesizes history-taking and physical examination; laboratory/diagnostic data interpretation; diagnostic reasoning and clinical decision-making for advanced nursing practice with culturally diverse pediatric clients and/or their families. This course is the first in the sequence of courses and is pre-requisite to specialty pediatric clinical courses. Pre- or Co-requisite: NURS 5103 and NURS 5102 or consent. Admission to one of the clinical specialties of the graduate program.</p>
011812	NUSC 5302	A	Clin Mgm Child/Family Pr	NURS 5111	<p>Application of expanded knowledge and clinical skills in the advanced nursing management of children with selected health care problems. Clinical experiences focus on the primary health care concerns of children, newborn through adolescent, and their families. 270 hours of clinical practice. Pre-requisites: NURS 5102, NURS 5103, NURS 5305; Co-requisite: NURS 5110</p>
010010	NUSC 5303	A	Clin Mgmt of Child & Fam	NURS 5110	<p>Provides the conceptual and theoretical foundation for advanced nursing assessment, diagnosis, and management of selected health care concerns. Emphasis is on the primary health care of children, newborn through adolescent, their families, and role development in clinical practice. Prerequisite: NURS 5102, NURS 5103, NURS 5305; Co-requisite: NURS 5111</p>
012455	NUSC 5323	A	MgmtFamReprHlth	NURS 5114	<p>Provides the conceptual and theoretical foundation for advanced nursing assessment, diagnosis, and management of selected health care concerns. Emphasis is on primary health care of adults in the childbearing years, their families, and role development in clinical practice. Pre-requisites: NURS 5102, NURS 5103, NURS 5305, NURS 5306. Co-requisite: NURS 5212.</p>
012454	NUSC 5352	A	ClinMgmtFamReprHlthPrct	NURS 5212	<p>Application of expanded knowledge and clinical skills in the advanced nursing management of young adults with selected health care problems. Clinical experiences focus on the primary health care concerns of adults in the childbearing years and their families. 180 hours of clinical practice. Pre-requisites: NURS 5102, NURS 5103, NURS 5305, NURS 5306. Co-requisite: NURS 5114.</p>
010014	NUSC 5363	A	Clin Mgmt Adlt/Fam Theory	NURS 5115	<p>Provides the conceptual and theoretical foundation for advanced nursing assessment, diagnosis, and management of selected health care concerns. Emphasis is on the primary health care of adults and their families and role development in clinical practice. Pre-requisites: NURS 5102, NURS 5103, NURS 5305, NURS 5306. Co-requisite: NURS 5116.</p>
010015	NUSC 5383	A	Clin Mgmt Adlt/Fam Pract	NURS 5116	<p>Application of expanded knowledge and clinical skills in the advanced nursing management of selected health care problems of adults. Clinical experiences focus on the primary health care concerns of adults and their families. 270 hours of clinical practice. Pre-requisites: NURS 5102, NURS 5103, NURS 5305, NURS 5306. Co-requisite: NURS 5115.</p>

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011771	NUSC 5403	A	Adlt/Ger Prim Cr Nsg Th I	NURS 5140	Emphasis on acquisition of advanced knowledge for primary care and case management of adults across the life span and acute and chronic health problems in diverse settings. Theories of health, health promotion, and restoration are included. Use of diagnostic procedures, pharmacological, and non-pharmacological interventions are emphasized. Pre-requisites: NURS 5142, NURS 5246 or consent. Co-requisite: NURS 5248.
012568	NUSC 5412	A	Adlt/Ger Prim Cr Nsg Pr I	NURS 5248	Emphasis on assessment, diagnosis, and therapeutic interventions in the management of adults with acute and chronic health problems across the lifespan. Nursing management in a variety of settings, in collaboration with other healthcare providers is stressed. Students use diagnostic skills, psychomotor skills, procedures, and pharmacological and non-pharmacological intervention. 180 hours of clinical practice. Pre-requisites NURS 5142, NURS 5246 or consent; Co-requisite; NURS 5140.
011704	NUSC 5423	A	Intro to Psych-MH Nsg Th	NURS 5150	Provides the theoretical foundation for advanced practice psychiatric-mental health registered nursing. Emphasis is on core concepts including the scope of psychiatric-mental health nursing, national mental health priorities, therapeutic helping skills, culturally diverse competent care, and human development. Pre-Requisites: Admission into the Psychiatric- Mental Health Registered Nurse Practitioner program. Pre- or Co-requisite: NURS 5102, NURS 5103, NURS 5306, NURS 5305.
011705	NUSC 5433	A	Psy MH Nsg Diag PsyPharm	NURS 5151	This course provides the conceptual and theoretical foundation for advanced mental health registered nursing assessment, diagnosis, and pharmacological management of adults with mental illness in the context of cultural diversity and varied practice settings. Pre-requisites: NURS 5102, NURS 5103, NURS 5305, NURS 5306, NURS 5150.Co-Requisite: NURS 5155.
011231	NUSC 5441	INV	Special Topics	NURS 5791	
011501	NUSC 5442	INV	Special Topics	NURS 5791	
011300	NUSC 5443	INV	Special Topics	NURS 5791	
011773	NUSC 5453	A	Adlt/Ger Prim Cr Nsg Th II	NURS 5240	Expands the conceptual approach to managing health problems of adults across the life span in diverse settings. Includes use of clinical decision-making to determine diagnostic and therapeutic interventions in increasingly complex acute and chronic to enhance functional activity and reduce unintentional illness/injury of adults. Pre- requisites: NURS 5140, NURS 5248, NURS 5142, NURS 5246 or consent. Co-requisite: NURS 5241.
010018	NUSC 5453	INV	Older Adlts Health II	NURS 5240	Expands the conceptual approach to managing health problems of adults across the life span in diverse settings. Includes use of clinical decision-making to determine diagnostic and therapeutic interventions in increasingly complex acute and chronic to enhance functional activity and reduce unintentional illness/injury of adults. Pre- requisites: NURS 5140, NURS 5248, NURS 5142, NURS 5246 or consent. Co-requisite: NURS 5241.
012567	NUSC 5461	A	Adlt/Gero Prim Psych Prac	NURS 5142	Application of knowledge and clinical skills as an adult-gerontology primary care nurse practitioner in the management of acute and chronic psychiatric problems and promotion of mental health in adults across the life span. Emphasis is on assessment, diagnosis, and interventions, as well as application of primary care and case management services in a diverse setting in collaboration with inter-professional health care providers. 90 hours clinical practice. Pre-requisites: NURS 5102, NURS 5103, NURS 5306, NURS 5305, NURS 5202, or consent. Co-requisite: NURS 5246.
011776	NUSC 5463	A	Adlt/Gero Prim Psych Theo	NURS 5246	An overview of the socio-cultural context of aging, promotion of mental health in adults, diagnostic methods, and content of major mental health problems, treatment, and legal issues for adult-gerontology primary care advanced practice registered nurse practitioners treating adults. Pre-requisites: NURS 5102, NURS 5103, NURS 5306, NURS 5305 or consent; Co-requisite: NURS 5142
011777	NUSC 5483	A	Adlt/Ger Pri Cr Nsg Pr II	NURS 5241	Clinical application of nursing management of health concerns in a variety of settings based on aging and health theories. Focus on process of health promotion, risk reduction, and restorative nursing intervention protocols in addressing health behaviors of adults with increasingly complex acute and chronic illnesses across the life span. 270 hours clinical practice. Pre-requisites: NURS 5142, NURS 5246, NURS 5140, NURS 5248 or consent. Co-requisite: NURS 5240.
011786	NUSC 5503	A	Dev/Well Chld Peds	NURS 5123	Provides the conceptual and theoretical foundation for advanced practice in child health nursing. Changes that occur throughout infancy, childhood, and adolescence will be explored together with nursing interventions used to maintain optimum health. Emphasizes the study of individual children and families relative to physical, psychosocial, and developmental needs. Prerequisites: NURS 5100, 5102, 5103, 5120, 5121 or consent. Corequisite: NURS 5343.
011538	NUSC 5512	A	Ped Primary Care Pr I	NURS 5124	Provides a background in health promotion. Students learn a variety of clinical modalities including: physical and developmental assessment techniques; approaches to facilitate children's growth and development; and management strategies for common developmental concerns. Public policy initiatives and research findings are integrated into clinical practice. 180 hours clinical practice. Co-requisite: NURS 5123 or consent.
011539	NUSC 5522	A	Ped Primary Care Pr II	NURS 5224	Provides practical clinical experiences in primary care settings and specialty clinics. Focus is on special populations in pediatrics, individual and family assessment, and acute and chronic illness management. Adolescent health, reproductive health and high risk newborn care clinical experiences will be provided. 180 hours clinical practice. Pre-requisites: NURS 5123, NURS 5124, NURS 5228, or consent. Co-requisite: NURS 5220.
011288	NUSC 5523	A	Int Pr Acute Cr Ped Nsg	NURS 5221	The pediatric nurse practitioner's role in acute care is emphasized through guided experiences to develop clinical competence and role integration. Students provide direct care, and are supervised by nurse practitioners or physician preceptors, as approved by faculty. 270 hours clinical practice. Pre-requisites: NURS 5324, NURS 5222, NURS 5228, NURS 5225, NURS 5186.
011202	NUSC 5532	A	Pediatric Acute Cr Pr I	NURS 5128	Practicum focus is on decision-making skills in the management of pediatric patients in a variety of settings with commonly occurring acute and chronic alterations in health patterns. Aspects of health promotion, screening and early detection, and high quality, cost-effective care are emphasized. 180 hours practice. Pre-requisites: NURS 5102, NURS 5103, NURS 5120, NURS 5121, or consent.
012741	NUSC 5533	A	Trans to AGPC Theory	NURS 5343	This post-masters course assists certified Gerontological Nurse Practitioners to transition to role of Adult-Gerontology Primary Care Nurse Practitioner through synthesis of evidenced-base clinical knowledge for management of acute, chronic, and complex illnesses of adults across the life-span with emphasis on disease prevention, health promotion, screening and restoration.
011056	NUSC 5543	A	Acute III Hosp Child	NURS 5222	Expands the theoretical and clinical foundation for advanced nursing practice in the care of the acutely ill or hospitalized child and their family. Explores theoretical, legal, and ethical implications of interventions for the management of children with complex medical conditions. Emphasizes the study of individual children within the context of their families to meet short and long term acute care needs. Pre-requisites: NURS 5123 and NURS 5228.
011230	NUSC 5551	INV	Independent Study	NURS 5801	Provides opportunity to pursue study to meet individual student needs. May repeat to a maximum of 6 credit hours. Pre-requisite: Consent.

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011235	NUSC 5552	INV	Special Topics	NURS 5791	
011245	NUSC 5553	INV	Independent Study	NURS 5801	Provides opportunity to pursue study to meet individual student needs. May repeat to a maximum of 6 credit hours. Pre-requisite: Consent.
011559	NUSC 5563	A	Advanced Pediatrics Theory	NURS 5324	Provides a framework for the care of diverse pediatric population through various transitions they may experience with acute and chronic conditions. This includes from primary care to acute care settings and their return to primary care. It will explore a multi-team approach including rehabilitative pediatric care and transition from pediatric to adult care. Pre-requisites: NURS 5102, NURS 5103, NURS 5120, NURS 5121, NURS 5228, NURS 5123, or consent.
010027	NUSC 5583	A	Mgmt Hlth Prob in Child	NURS 5228	Focuses on decision making skills in the management of selected health problems in children, newborn through adolescent. Includes developmental, physiological, pharmacological, and nutritional strategies. Pre-requisites: NURS 5102, NURS 5103, NURS 5306, NURS 5305 or Pre- or Co-requisite: NURS 5123, NURS 5124.
011203	NUSC 5592	A	Pediatric Acute Cr Pr II	NURS 5225	Implement and evaluate interventions directed toward promoting, restoring, and maintaining the health of pediatric patients with commonly occurring acute and chronic alterations in health patterns. Legal and ethical practice standards, community resources, and case management strategies will be incorporated into practice. Practice will occur in selected specialty areas. 180 hours clinical practice. Pre-requisites: NURS 5228 and NURS 5123.
012739	NUSC 5593	A	Acutely Ill/Hosp Chld Thry II	NURS 5223	Expands the theoretical and clinical foundation for the care of the acutely ill or hospitalized child and family. Explores theoretical, legal, and ethical implications of children with complex medical conditions. Emphasis is placed on the pathophysiology and epidemiology underlying acute and chronic health problems with critical analysis and management of such issues.
010028	NUSC 5603	A	Integrated Practicum PNP	NURS 5227	Pediatric nurse practitioner role in primary care is emphasized through guided experiences to develop clinical competence and role integration. Students provide direct care and are supervised by nurse practitioner preceptors and physicians as approved by the faculty. 270 hours clinical practice. Pre-requisite: All child health specialty courses or consent.
011707	NUSC 5661	A	Psych Mntl Hlth Pr I	NURS 5156	This course will focus on the application of expanded knowledge and clinical skills of selected therapeutic modalities for advanced practice mental health registered nursing. Clinical experiences focus on group and individual therapy across the lifespan including emancipated minors, in culturally diverse practicum settings. 90 hours of clinical practice. Pre-requisites: NURS 5150 and 5151. Co-requisite: NURS 5155.
011706	NUSC 5663	A	Psych Mntl Hlth Nsg Th I	NURS 5155	Provides advanced theoretical knowledge of mental health conditions and symptoms affecting adults in the context of cultural diversity and practice settings. The emphasis is on acute mental health problems, crisis management, addictions/substance abuse, and severe persistent mental illness. Pre-requisites: NURS 5102, 5103, 5305, 5306, and 5150. Corequisite: NURS 5156.
011708	NUSC 5673	A	Psych Mntl Hlth Th II	NURS 5255	The course applies the conceptual and theoretical knowledge for selected therapeutic modalities in the management of a variety of mental health needs of children, adolescence and older adults in the context of the family, cultural diversity, and practice settings. This course also focuses on violence, abuse and neglect as it occurs in these populations. Pre-requisites: NURS 5155 and 5156. Co-requisite: NURS 5256.
011709	NUSC 5683	A	Psych Mntl Hlth Pr II	NURS 5256	Application of expanded knowledge in mental health and clinical skills in advanced mental health assessment and pharmacologic nursing with selected mental health care problems. Clinical experiences focus on the management of mental health illnesses affecting children, adolescents, and adults across the life span in the context of the family, cultural diversity, and practice settings. 270 hours of clinical practice. Pre-requisites: NURS 5155 and 5156. Co-requisite: NURS 5255.
011711	NUSC 5692	A	Psych Mntl Hlth Pr III	NURS 5356	Application of expanded knowledge and clinical skills in the advanced nursing management of selected family mental health needs. Clinical experiences focus on the mental health care concerns of children, adolescents, adults, and older adults, families, role development, and cultural diversity in practice settings. 180 hours of clinical practice. Pre-Requisites: NURS 5255 and 5256. Co-requisite: NURS 5355.
011710	NUSC 5693	A	Psych Mntl Hlth Th III	NURS 5355	Provides the conceptual and theoretical foundation for advanced practice registered nursing assessment, diagnosis, and management of selected family mental health care concerns. Emphasis is on selected mental health care concerns of families across the lifespan, cultural diversity and practice settings. Pre-Requisites: NURS 5255 and 5256. Co-requisite: NURS 5256.
010034	NUSC 5703	A	Org Behavior in Nsg	NURS 5270	Analysis, exploration, evaluation, and application of theories and research related to the behavior of nursing personnel within the environment of a health care organization.
011325	NUSC 5723	A	Nursing Informatics	NURS 5271	Within the conceptual framework of the Foundation of Knowledge, this course integrates nursing science, information science, computer science, and cognitive science to acquire, process, generate, and disseminate knowledge. Informatics applications that affect health care and nursing will be emphasized.
010036	NUSC 5743	A	Personnel Mgmt in Nsg	NURS 5272	Explores current personnel management issues related to nursing administration in health care systems.
010037	NUSC 5753	A	Law, Pol & Proc in Hlthca	NURS 5273	Legal, policy and procedural dimensions of health care delivery and administration.
011468	NUSC 5773	A	Financial Mgmt in Nursing	NURS 5275	Principles and practices of financial management required for nursing in today's health care environment. Within this framework, content regarding financial accounting, cost analysis, strategic financial planning, budget concepts, and managing financial resources is examined.
010038	NUSC 5786	A	Nsg Adm Practicum	NURS 5379	Guided experiences in the practice of nursing administration at lower, middle and higher levels in complex health care facilities. Settings selected based on individual student needs and course expectations. Concurrent seminars related to administrative roles. 270 hours clinical practice. Pre-requisites: NURS 5270, 5271, 5272, 5273, and 5275.
012784	NUSC 5803	A	Human Genetics	NURS 5391	This course focuses on genetics for individuals, families and populations who are at risk for genetic conditions or who have a condition with a genetic component. Topics covered will prepare the student to apply genetic/genomic science to advanced assessments, interventions, outcomes, and research.
011195	NUSC 5803	INV	Cl Genetic Nsg Pr & Rsch	NURS 5391	This course focuses on genetics for individuals, families and populations who are at risk for genetic conditions or who have a condition with a genetic component. Topics covered will prepare the student to apply genetic/genomic science to advanced assessments, interventions, outcomes, and research.
011515	NUSC 5804	A	Adlt/Ger Act Cr Nsg Th I	NURS 5185	Provides the research based conceptual and theoretical foundation for advanced registered nursing practice in adult-gerontology acute care nursing. Management of commonly occurring acute and chronic alterations in health patterns, health promotion, screening and early detection, and delivery of cost effective, high quality care are emphasized for adults across the lifespan. Pre-requisites: NURS 5102, 5103, 5306, 5305, or consent. Co-requisite: NURS 5186.
011517	NUSC 5852	A	Adlt/Ger Acut Cr Nsg Pr I	NURS 5186	Focus is on decision-making skills in the management of adults across the life span in a variety of settings with commonly occurring acute and chronic alterations in health patterns. Aspects of health promotion, screening, early detection, and high quality, cost-effective care are emphasized. 180 hours clinical practice. Pre-requisites: NURS 5102, 5103, 5306, 5305, 5202, or consent. Co-requisite: NURS 5185 or consent.

011519	NUSC 5863	A	Adlt/Ger Act Cr Nsg Th II	NURS 5285	Expands the research based conceptual and theoretical foundation for advanced registered nursing practice in adult-gerontology acute care nursing. Management of commonly occurring acute and chronic alterations in health patterns, ethical and legal standards of practice, access to community resources, and case management are emphasized. Prerequisites: NURS 5185, 5186, or consent. Co-requisite: NURS 5286.
011864	NUSC 5871	A	AGAC Prac II	NURS 5286	Implement and evaluate interventions directed toward promoting, restoring, and maintaining the health of adults across the life span with commonly occurring acute and chronic alterations in health patterns. Legal and ethical practice standards, community resources, and case management strategies will be incorporated into practice. Practice will occur in selected specialty areas. 90 hours clinical practice. Pre-requisites: NURS 5185 and 5186, or consent. Co-requisite: NURS 5285.
011520	NUSC 5872	INV	Adlt/Ger Act Cr Nsg Pr II	NURS 5286	Implement and evaluate interventions directed toward promoting, restoring, and maintaining the health of adults across the life span with commonly occurring acute and chronic alterations in health patterns. Legal and ethical practice standards, community resources, and case management strategies will be incorporated into practice. Practice will occur in selected specialty areas. 90 hours clinical practice. Pre-requisites: NURS 5185 and 5186, or consent. Co-requisite: NURS 5285.
012609	NUSC 5873	A	Transition Adult/Ger AGAC	NURS 5181	This post-master's course assists certified Acute Care Nurse Practitioners to transition to role of Adult-Gerontology Acute Care Nurse Practitioner through synthesis of evidenced-based clinical knowledge for management of acute, chronic, and complex illnesses of adults across the life span with emphasis on disease prevention, health promotion, screening and restoration. Pre-requisites: Student must complete a Master's of Science Degree in Nursing in the specialty of Adult Acute Care Nurse Practitioner and is currently or previously certified as a ACNP BC. Student must have evidence of Advanced Pathophysiology, Advanced Pharmacology, and Advanced Health Assessment as determined by the GAP analysis according to the National Organization of Nurse Practitioner Faculties (NONPF) and the National Task Force (NTF, 2012). Permission of the instructor is required. Co-Requisites: Currently certified as an Adult Acute Care Nurse Practitioner and has prescriptive authority and/or a DEA number. NURS 5103 (if certification greater than 5 years old, not practicing, and does not have prescriptive authority and/or a DEA number)
011516	NUSC 5882	A	Adlt/Ger Act Cr Nsg III	NURS 5385	Explores selected bio-psycho-social concepts which affect nursing care of adults across the life span, the adult's response to illness, and how the role of the adult-gerontology acute care nurse practitioner influences the ability to promote, restore, and maintain health of adults across the life span. Pre-requisites: NURS 5185, 5186, 5285, 5286, or consent. Co-requisite: NURS 5386.
011518	NUSC 5893	A	Adt/Gero Act Cr Ns Pr III	NURS 5386	Apply, with increasing competency, theoretical concepts from adult-gerontology acute care geriatric nursing theory courses in the management and referral of adults from across the life span with commonly occurring chronic and acute alterations in health patterns. Clinical competences and role integration for the Adult-Gerontology Acute Care Nurse Practitioner in multiple acute care settings are emphasized. 270 hours of clinical practice. Pre-requisites: NURS 5185, 5186, 5285, 5286 or consent. Co-requisite: NURS 5385.
011370	NUSC 5961	A	Outcomes Portfolio	NURS 5995	At the completion of the program of study, the students are expected to successfully complete an Outcomes Portfolio. The Outcomes Portfolio is a written document and oral defense based on specific outcomes-based criteria.
010895	NUSC 6041	INV	ST: Peds Cert Review	NURS 5791	
010897	NUSC 6043	INV	ST: CNS Practicum	NURS 5791	
010894	NUSC 6051	INV	Independent Study	NURS 5801	Provides opportunity to pursue study to meet individual student needs. May repeat to a maximum of 6 credit hours. Pre-requisite: Consent.
010896	NUSC 6053	INV	Independent Study	NURS 5801	Provides opportunity to pursue study to meet individual student needs. May repeat to a maximum of 6 credit hours. Pre-requisite: Consent.
010060	NUSC 6103	A	Theory in Science	NPHD 6104	Examines the nature of scientific explanation and theoretical development. The historical and philosophical bases of sciences, strategies for theory development, and the use of theory in the evolution of nursing as a discipline are analyzed. Prerequisite: Consent.
010061	NUSC 6113	A	Theoretic Sys in Nsg Rsch	NPHD 6109	Analyzes the relationship of theoretical systems to nursing research. The application of theoretical systems to nursing and strategies for using them in research are evaluated. Pre- or Co-requisite: NUSC 6103 or consent.
010062	NUSC 6123	A	Issues Influencing Rsch	NPHD 6105	Examines the professional, financial, sociopolitical, ethical, and legal issues that effect the conduct of nursing research. The roles of health policy and funding priorities in developing a program of nursing research are examined. Prerequisite: Consent, if not CON PhD student.
011613	NUSC 6233	A	Qualitative Research Meth	NPHD 6102	Examines the philosophical foundation for and methodological issues in using qualitative approaches for scientific inquiry and knowledge development. Strategies for enhancing scientific and methodological rigor are explored. Pre-requisite: Consent, if not a CON PhD student.
010064	NUSC 6243	A	Quantitativ Mthd Nsg Rsch	NPHD 6103	Examines the philosophical foundation for and characteristics of designs and methods associated with quantitative approaches to scientific inquiry and knowledge development. Characteristics of effective design and methods and strategies for enhancing the scientific and methodological rigor are explored.
010065	NUSC 6254	A	Data Mgmt & Analysis I	NPHD 6106	Examines approaches to reducing, managing, and analyzing data for primary and secondary analysis. Coding data, designing data entry systems, interfacing with major statistical software packages, and coordinating mainframe and microcomputer software are discussed. Pre- or Co-requisite: Consent.
010066	NUSC 6264	A	Data Mgmt & Analysis II	NPHD 6114	Evaluates inferential statistics appropriate for analysis of data from non-experimental, quasi-experimental, and experimental designs and examines the uses, conceptual issues, mathematical formulations, and limitations of empirical and non-empirical methods used in analysis and synthesis of complex data sets. Pre-requisite: NPHD 6106 or consent.
012398	NUSC 6271	A	Leadership Practicum	NPHD 6115	This course invites students to engage in a leadership/policy related experience. Students will choose a topic and respective client that will be used for a policy analysis exercise. This course should be taken within one (1) to two (2) semesters following NUSC 6273: Leadership in Healthcare Systems. This is a field-based experiential course. Pre- or Co-requisite: NUSC 6273.
011868	NUSC 6273	A	Leadership in Hlthcare Sy	NPHD 6110	Examines the theoretical underpinning of leadership knowledge, principles, skills, and competencies needed to lead inter-professional teams and health care system change to improve the health of society. This course provides students with an overview of the U.S. health care system and the financing and organization of health care. Steps used in the policy process will be discussed.

010068	NUSC 6283	A	Qual Data Analysis, Th&Pr	NPHD 6108	Course examines approaches to collecting, reducing, managing and analyzing qualitative software packages used in data management. The practicum portion of the course includes practice sessions for interviewing, coding data, establishing inter-rater agreement and development themes. Pre-requisite: NPHD 6102 or consent (for interdisciplinary students).
010069	NUSC 6323	A	Synthesizing Literature	NPHD 6112	Develops the skills to synthesize the literature in clinical nursing research. This course may also be available by Internet in some semesters. Prerequisites: NPHD 6104, 6109, and 6103 or consent.
010070	NUSC 6333	A	Prelim Study & Grant Dev	NPHD 6113	Develops skills needed to conduct preliminary pilot studies and prepare a grant proposal. Prerequisites: NPHD 6104, NPHD 6109, NPHD 6102, NPHD 6103, NPHD 6112, BIOS 5013, BIOS 5212, or consent of the instructor.
011759	NUSC 7001	A	Dissertation Seminar	NPHD 6201	Each student must enroll in one (1) hour of dissertation seminar in each of the two (2) semesters (fall, spring) following successful completion of the DCE. The student is expected to complete and successfully defend the dissertation proposal at the completion of the second semester. These two (2) hours are part of the 18 required dissertation hours. Prerequisite: Candidacy status and consent.
011799	NUSC 7003	A	Lding/Mnging Cmplx HC Sys	NURS 7110	This course emphasizes the leadership role of Doctor of Nursing Practice graduates in transforming healthcare using strategic planning methods for initiating and implementing evidence-based practices that impact healthcare policy and the delivery of healthcare services. Using a systems leadership approach, students will develop outcomes management skills based on decisions that are goal centered and data driven. Pre-requisites: Admissions to the Doctorate of Nursing Practice Program
012556	NUSC 7013	A	Hlthcr Rsrscs Prjct Mgmt	NURS 7111	This course prepares the student to utilize advanced project management tools and technologies for planning and managing healthcare resources within an analytic framework for accountability. Human resource management theories, financial planning conventions, and project management strategies are applied to practice-level and system-wide healthcare quality initiatives. Pre-requisites: Admission to the Doctorate of Nursing Practice Program and Consent by Course Coordinator
011616	NUSC 7023	A	Healthcare Informatics	NURS 7112	This course examines the role of nursing informatics in translating data to evidence for nursing practice through meaningful use of electronic health records data and clinical decision support systems. Students will experience knowledge discovery in databases by utilizing data modeling, mining, and management techniques and technologies. Pre-requisites: Admission to the Doctorate of Nursing Practice Program
011695	NUSC 7033	A	Synth Evid for Nsg Pract	NURS 7113	This course prepares nurses to build communities of intra- and inter-professional healthcare experts for collaboratively identifying and appraising various sources of information from scientific research, clinical data, and professional expertise for use in evidence based nursing practice. Pre-requisites: Admission to the Doctorate of Nursing Practice Program and Consent by Course Coordinator.
011696	NUSC 7043	A	Data Mgmt & Anlytcs	NURS 7114	This course prepares the Doctor of Nursing Practice to systematically apply strategic approaches for managing, analyzing and presenting healthcare data for evidence-based practice in nursing. Within the framework of scientific inquiry, students will develop the competencies needed to select and perform appropriate statistical techniques for describing phenomena, exploring relationships, and comparing groups. An overview of major concepts in statistics, including the distinction between parametric and nonparametric statistics, principles of measurement, and the interpretation of inferential statistical significance, is introduced and applied using contemporary analytic methods.
011882	NUSC 7113	A	Ev-Bsd Practice DNP	NURS 7210	This course provides foundational knowledge for applying analytic skills and evidence-based practice principles within a theoretical context to address significant healthcare issues that improve the care of individuals, families and populations. Course emphasis is on generating knowledge regarding the process of clinical scholarship in the translation of evidence to practice. Pre-requisites: Admission to the Doctorate of Nursing Practice Program
011617	NUSC 7113	INV	Evidnc Bsd Prctc DNP I	NURS 7210	This course provides foundational knowledge for applying analytic skills and evidence-based practice principles within a theoretical context to address significant healthcare issues that improve the care of individuals, families and populations. Course emphasis is on generating knowledge regarding the process of clinical scholarship in the translation of evidence to practice. Pre-requisites: Admission to the Doctorate of Nursing Practice Program
011814	NUSC 7123	A	Quality Outcomes Mgmt	NURS 7211	This course focuses on translating evidence into practice, identifying practice outcomes, sustaining evidence-based practice changes, and creating an environment to support evidence-based practice.
011859	NUSC 7312	A	DNP Project I	NURS 7411	The first of a three-course series in which DNP students design, implement, manage, evaluate, and disseminate a student-developed analytic and scholarly project proposal. Emphasis is on designing an evidence-based project using methods that ensure strong internal and external validity. Students will derive a project protocol ready for IRB submission. Pre-requisites: NURS 7111 and 7210.
012333	NUSC 7323	A	DNPProject_II	NURS 7412	The second of a three-course series in which DNP students design, implement, manage, evaluate and disseminate the results of a student-developed analytic and scholarly project. Emphasis is placed on the execution and management of the student's final DNP Project designed to translate evidence for advancing nursing practice. During this phase, students will apply leadership and organizational systems thinking concepts to the execution of their project using the design and methods identified in the DNP Project I course. Pre-requisites: NURS 7411.
012419	NUSC 7334	A	DNP Project III	NURS 7413	Third of a three-course series that prepares the DNP student to evaluate and disseminate the findings of their student-developed analytic and scholarly project planned and implemented in DNP Project I and II. The DNP Project is designed to translate research into advancing nursing practice to improve population health outcomes. Pre-requisites: NURS 7412.
010303	NUTR 509V	A	Ind Study Clin Nutrition	NUTR 5103	This option may be used by students seeking to define a thesis topic or to pose a research question about a specific aspect of clinical nutrition. The student will prepare a written report following designated guidelines.
010313	NUTR 523V	A	Adv Clinical Practicum	NUTR 5116	Based on individual needs and prior clinical experiences, the student may elect an area of advanced clinical nutrition practice for in-depth experiences after determining goals, objectives, and major experiences desired. Prerequisite: NUTR 5107, NUTR 5102, NUTR 5105 and NUTR 5113 or equivalent and consent of instructor.
010315	NUTR 551V	A	Spec Topics Clin Nutr	NUTR 5120	Advanced work in selected topics of current interest and investigation in clinical nutrition. Topics might include new research and guidelines in the use of nutrition or selected nutrients to prevent or treat a specific disease state such as diabetes, digestive diseases, osteoporosis, obesity, or cardiovascular diseases.
010316	NUTR 600V	A	Masters Thesis Clin Nutr	NUTR 5121	Under supervision of graduate faculty, an original research study will be designed and conducted with written thesis following Graduate School guidelines.
010317	NUTR 601V	A	Clin Nutr Spec Project	NUTR 5122	Completion of a capstone nutrition research project under direction of faculty advisor and non-thesis project committee. Minimum of three hours required. Grade of R until at least three hours are completed and defended. Prerequisite: Completion of or concurrent enrollment in all core courses in Clinical Nutrition. Corequisite: Approved project advisor.
010318	NUTR 608V	A	Research in Nutrition	NUTR 5101	Students will participate in a research project under the supervision of a faculty member.

The course concordance is subject to change. Please refer to the newest version at registrar.uams.edu and avoid saving a local copy.

Status Key: A = Active Course; INV = Inactive; New Version (the renumbering listed is equal to the new version)

011816	NUTR 2100	A	Basic Human Nutrition	NUTR 2100	
011625	NUTR 4123	A	Prin Biochem Nutr	DIET 4123	In this online course, students will gain an understanding of the basic concepts of biochemistry which is essential for their career in any area of nutrition. This includes: an understanding of the major biomolecules affecting nutrition and found in living organisms, the control and regulation of protein structure and function, enzyme kinetics, nucleic acid, lipids and membrane transport, biochemical evolution and carbohydrates and metabolism. Prerequisites: working knowledge of basic chemistry and basic nutrition or consent of faculty.
010299	NUTR 5032	A	Assess of Nutrition Stat	NUTR 5102	Study of nutritional assessment systems and methodology including the latest technology in dietary, biochemical, anthropometric, and clinical evaluation. Emphasis placed on design of systems, interpretation of indices for all age groups in health and disease, and application of data in nutrition consultation. Prerequisites: Undergraduate courses in Biochemistry, Anatomy, Physiology, Nutrition, Food Science or equivalents.
010300	NUTR 5033	A	Adv Clinical Nutrition	NUTR 5107	Advanced Clinical Nutrition Integration of principles of biochemistry, physiology, pathology, anatomy, psychology, anthropology, epidemiology, nutrition and food science into therapeutic use of foods and nutrients in disease prevention and treatment through a case-oriented approach. Prerequisites include Biochemistry, Diet in Disease, Anatomy and Physiology; NUTR 5118 can be substituted for this course or consent.
010301	NUTR 5043	A	Diet &/or Cancer Prevent	NUTR 5108	This course will focus on clinical and preclinical studies that address how dietary related factors, such as nutrients, bioactive food components and obesity, influence cancer development and cover major mechanisms by which dietary factors modify cancer risk. Prerequisites: A previous course in nutrition, biology, biochemistry, or physiology and consent.
010302	NUTR 5063	A	Medical Nutrition Therapy	NUTR 5109	Online course introducing nutrition as a medical specialty from the perspective of disease prevention and treatment including assessment, patient interviewing strategies, medical terminology, nutrition care plan techniques, and prevention strategies. Prerequisites: a course in nutrition and in organic biochemistry or equivalent. Consent.
004828	NUTR 5073	INV	Pract In Clinical Diet	DIET 5073	Supervised learning experience in clinical dietetics designed to meet specific objectives and achieve identified clinical nutrition competencies. Experiences scheduled in a variety of health care and community settings. This course is an elective in the MSCN program and a required core course in the internship program.
007084	NUTR 5083	INV	Pract in Adm Diet	DIET 5083	Supervised learning experiences in administrative dietetics to meet specific objectives and achieve identified management competencies. Experiences scheduled in a variety of units within health care facilities. This course is an elective in the MSCN program and a required core course in the internship program.
010304	NUTR 5103	A	Nutr & Metab Macronutrien	NUTR 5110	Reviews cell function, including acid-base, utilization of nutrients in metabolic processes, and roles of specific nutrients in human metabolism. Physiology and organ systems function as related to nutrition will also be addressed. Alterations in metabolic processes caused by specific diseases will be discussed.
010305	NUTR 5112	A	Nutrition Counseling	NUTR 5111	This course will provide an understanding of the methods, strategies, and evaluation techniques of nutrition and diet counseling. Learning styles, nutritional anthropology, and instructional technology are applied in the health care setting. Prerequisite: NUTR 5107: Advanced Clinical Nutrition or equivalent; and consent of faculty.
010306	NUTR 5122	A	Prin Adv Nutr Support	NUTR 5105	Advanced study in the art and science of nutrition support explored through a comprehensive review of the literature; discussion of the biochemical, physiological, and medical aspects of nutrition support; and application of these principles in clinical practice through case study presentation. Students participate in literature analysis and case discussions. Prerequisites: NUTR 5107 Advanced Clinical Nutrition or equivalent; NUTR 5110 Nutrition and Metabolism or equivalent; NUTR 5102 Assessment of Nutritional Status or equivalent; and consent of faculty.
010307	NUTR 5143	A	Nutr Rsch & Stat Methods	NUTR 5104	A study of research designs, statistics, and data collection methods used in nutrition research. Emphasis on planning metabolic, epidemiological, educational, and clinical studies including food composition and nutritional assessment surveys with basic and advanced statistical applications. Prerequisite: Graduate level course in Statistics and consent of faculty.
010308	NUTR 5153	A	Nutr & Metab Micronutrien II	NUTR 5106	This course reviews the roles of vitamins, minerals, and trace elements in metabolic processes, and their roles in human metabolism. Alterations in metabolic processes caused by specific vitamin deficiency diseases will be discussed. Metabolism of common drugs and drug-nutrient interactions will be reviewed. Prerequisite: NUTR 5110 or equivalent.
010309	NUTR 5161	A	Adv Nutrition Seminar	NUTR 5112	Graduate seminar of important current research in clinical nutrition to reflect content, application to clinical practice, and study parameters and design. Students will read original papers, write critiques, and make presentations for discussion.
010310	NUTR 5203	A	Geriatric Nutrition	NUTR 5113	Examines the relationships between nutrition and physiologic aging. The impact of aging on nutritional requirements, effects of chronic and acute disease, effects of nutrition on the aging process, and nutrition programs for older adults are explored. Students will actively analyze and discuss research literature. Prerequisite: Graduate courses in metabolism, nutrition assessment, and advanced clinical nutrition. Consent of faculty.
010311	NUTR 5213	A	Pediatric Nutrition	NUTR 5114	This course describes the relationship of growth and development to nutrient requirements, from infancy to adolescence. The assessment of feeding practices, food habits, and nutritional status in growth problems, health and diseases will be discussed. Nutritional interventions and therapies for specific conditions will be planned. Prerequisites: NUTR 5110, 5118, 5106, 5107 and consent of instructor.
010312	NUTR 5223	A	Nutr Hlth, Welln & Sport	NUTR 5115	This course describes the application of advanced principles of normal and preventive nutrition to health and fitness, physical performance, disease prevention, and health promotion in dietetic practice. It relates clinical research in exercise physiology to decision making in wellness and sports nutrition counseling. Prerequisites: NUTR 5110, 5106, 5107 and consent of instructor.
010465	NUTR 5243	A	Community Nutrition	NUTR 5117	This advanced-level course will provide the student with a framework to approach, analyze, and work with the community nutrition problems. The needs of different populations and resources within the community will be discussed. This course will cover nutritional needs assessment, nutritional education and public policy. Prerequisites include either NUTR 5110, NUTR 5106, or NUTR 5118 or Consent of faculty. Off-site activities will be necessary to fulfill requirements for this course.
007085	NUTR 5333	A	Adv Clinical Diet	DIET 5333	Integration of scientific principles of nutrition and food science into the use of foods and nutrients in disease prevention and treatment in accordance with clinical competencies for the entry-level dietitian. Corequisite: Admission to Dietetic Internship and consent of faculty.
010314	NUTR 5333	INV	Adv Clinical Dietetics	NUTR 5107	Advanced Clinical Nutrition Integration of principles of biochemistry, physiology, pathology, anatomy, psychology, anthropology, epidemiology, nutrition and food science into therapeutic use of foods and nutrients in disease prevention and treatment through a case-oriented approach. Prerequisites include Biochemistry, Diet in Disease, Anatomy and Physiology; NUTR 5118 can be substituted for this course or consent.

010376	OEHM 509V	A	Advanced Toxicology	OEHM 5103	This advanced course will be a modular course consisting of several interdisciplinary areas. Those areas of study include developmental, occupational, and environmental toxicology. Will provide students with in-depth information concerning the use of basic medical sciences to assess chemical and drug-induced toxicity and to evaluate public health problems. (Same as INTX 509V.) Prerequisite: OEHM 5023
010377	OEHM 511V	A	Spec Topics in OEH	OEHM 5104	Gives in-depth treatment to topics of current importance and to specialized subjects not covered in general courses. Each topic will be a narrowly defined aspect of occupational or environmental health.
010381	OEHM 600V	A	Master's Thesis	OEHM 5201	Prerequisite: graduate standing and consent.
010371	OEHM 5043	INV	Occup & Envir Hazard Cntl	ENVH 5202	Detailed study of the principles and practices involved in the control of environmental health hazards, with particular attention to occupational hazards. Topics covered will include ventilation for airborne contaminants, respiratory protection, electrical and mechanical safety methods, and the control of hazards from noise, vibration, radiation, heat, biohazards, and chemical hazards.
010373	OEHM 5063	INV	Toxicology in Pub Health	ENVH 5302	This course focuses on the application of toxicology to protecting and improving public health. Toxicology is an interdisciplinary science. Toxicology is a tool to evaluate the hazards to health from toxicants in the environment, community and workplace. Toxicological methods including the detection of. Examples of regulatory application are provided. Emphasis is placed on dose response relationships and the risk assessment synergism between animal toxicology and epidemiology. The role and responsibility of toxicology in the function of the EPA, FDA, CDC, ATSDR, OSHA, NIOSH, ADH and ADEQ is articulated by the instructors and demonstrated in classroom exercises and presentation of case studies. When advantageous, hazard analysis and risk assessment is explained in the context of site specific and community based exercises and case studies. The role of toxicology in setting policy is demonstrated utilizing the "whose risk and whose benefit" approach Environmental Justice as a benchmark.
011156	OEHM 5073	INV	Reg of Environmental Hlth	ENVH 5221	Operational and conceptual toxicology with the statutory basis for and aspects of governmental regulation of environmental hazards to public health. Provides potential toxicologists with a better understanding of the relationships that exist between scientific aspects of toxicology and their application through the statutory framework and related governmental regulations in the public health arena.
010375	OEHM 5083	A	EOH Policy	ENVH 6043	This course is designed to stimulate critical thinking about environmental and occupational health risk management, including policy effectiveness, efficiency, and fairness. Alternatives to traditional means of regulating environmental hazards will be explored, along with issues regarding environmental justice and ethics and the role of participation by affected groups. Prerequisites: PBHL 5113 or OEHM 5023 or equivalent and consent of course director.
010378	OEHM 5153	INV	Env & Indust Biologic Hzd	ENVH 5404	Biological hazards associated with exposures via foods, water, air, vectors (human, animal and insect, paracites), drugs, medical waste, bioterrorism and the workplace are evaluated. The course covers impact of direct and indirect human perturbations of the environment, disease control and prevention, surveillance and regulations regarding protecting the public health from biological hazards. Prerequisites: Eight hours of biology coursework, or permission of the instructor
011892	OEHM 5153	INV	Env & Indust Biologic Hzd	ENVH 5404	Biological hazards associated with exposures via foods, water, air, vectors (human, animal and insect, paracites), drugs, medical waste, bioterrorism and the workplace are evaluated. The course covers impact of direct and indirect human perturbations of the environment, disease control and prevention, surveillance and regulations regarding protecting the public health from biological hazards. Prerequisites: Eight hours of biology coursework, or permission of the instructor
011893	OEHM 5263	A	Env Exposure Assessment	ENVH 5222	Quantitative introduction to the generation, propagation, measurement, and evaluation of air contaminants (including aerosols, gases and vapors). Principles of sample collection and analysis, direct measurement, and statistical analysis and interpretation of results are covered. Applications studied include monitoring and modeling of industrial, community, transportation, and indoor environments and sources.
010380	OEHM 5263	INV	Env Exposure Assessment	ENVH 5222	Quantitative introduction to the generation, propagation, measurement, and evaluation of air contaminants (including aerosols, gases and vapors). Principles of sample collection and analysis, direct measurement, and statistical analysis and interpretation of results are covered. Applications studied include monitoring and modeling of industrial, community, transportation, and indoor environments and sources.
011723	OEHM 5913	INV	Climate and Health	ENVH 5303	Climate change is an exceptional global environmental crisis primarily driven by anthropogenic activities with adverse consequences on ecological and life systems. This course will provide students an overview of the driving forces and mechanics of climate change and comprehensive analysis of the implications on Earth's natural/human ecosystems and health in a local, regional, and global scale. The concepts, approaches and uncertainties of methods applied to assess and monitor the health impacts of climate change will be presented and specific disease cases will be discussed. Lastly, ongoing efforts to cope/adapt, mitigate or reduce the impacts and the mechanisms to develop these tools will be examined.
011593	OEHM 6013	A	FDA Regulations	OEHM 6013	This class will explore how developing science and changes in commerce have influenced the basic laws, regulations, and policies used by the United States Food and Drug Administration to insure the safety of medical products, food and cosmetics. Also, the impact of FDA's regulations and policy in protecting consumers and promoting public health will be examined. The course will focus on the use of toxicology as the scientific discipline that forms the foundation for actions taken by the Food and Drug Administration. The overall goal is for students to gain a working knowledge of how laws and regulations impact on Regulatory Sciences and public health. The course incorporates lecture presentations, classroom discussions of case studies and writing critiques of current issues before the agency.
011594	OEHM 6023	A	Product Safety Assessment	OEHM 6023	The course reviews the utilization of risk assessment by Federal Government regulatory agencies with emphasis on the US Food and Drug Administration. The course describes basic principles and provides hands-on training with methods used to quantify or predict human risk. Emphasis will be placed on dose-response assessments and topics relevant to estimating human health risk from drugs, food additives, cosmetics and other regulated products. The course is organized to provide a systematic approach to current and emerging assessment practices. The course includes the application of the latest methods for describing human health risks from drugs and other chemicals. Topics include the utilization of current in vitro and in vivo pre-clinical testing methods, scientific principles underlying extrapolation from animal toxicity testing to the assessment. The use of post approval data to estimate risk is demonstrated. The course will utilize readings, classroom lectures and presentations, classroom discussions/demonstrations, written critiques, and presentations of current issues in risk assessment.

011610	OEHM 6033	A	Design & Mgt of Clin Tri	OEHM 5107	This course examines the design and conduct of clinical trials from the perspectives of the investigator, sponsor, and regulators. Basic principles of study design is reviewed and applied. Students will gain experience developing a clinical trial protocol in a team-based environment that will simulate project development in the pharmaceutical industry. Elements of study conduct are explored from multiple perspectives including study sites, sponsors, and regulatory agencies. Contemporary issues in study design and management is considered. Problem solving, case studies and group projects are used to provide a participation-based learning experience. Many of the topics are presented by guest lecturers who are experts in their subject matter.
006279	OPH 3101	A	Clin Skills Lab I	OPHT 3101	Focus on ophthalmic exam protocol; subsequent clinical skills lab courses are aimed at developing ophthalmic clinical skills in a logical progression with increasing levels of complexity.
001044	OPH 3105	A	Clin Skills Lab II	OPHT 3105	This course will familiarize students with various ophthalmic equipment and testing protocols emphasizing concepts underlying construction of equipment; proper usage of the equipment, focus on lensmeter, tonometry, retinoscopy, and refractometry concepts and skills.
008753	OPH 3106	A	Clinical Skills Lab III	OPHT 3106	Continuation of previous clinical laboratory course in order to develop and enhance clinical skills focusing on the areas of advanced refractometry techniques, advanced retinoscopy techniques, and basic Goldmann perimetry.
007072	OPH 3201	A	Gen Med Knowldg&Term	OPHT 3201	Provides the student instruction in basic medical terminology, a general overview of human anatomy and physiology, and systemic illnesses.
001045	OPH 3202	A	Intro OT/Med Law/Eth	OPHT 3202	Introduces the student to ophthalmic technology, including the role of the ophthalmic technologist, duties and responsibilities of the technologist, basic ocular examination techniques, measurement of visual acuities, basic lensometry, identification and usage of ophthalmic equipment, maintenance of ophthalmic examination lanes and special testing areas, and ethics: medical-legal aspects of ophthalmology.
007073	OPH 3203	A	Ocular A & P	OPHT 3203	Provides the student a detailed knowledge of the normal anatomy and physiology of the eye and orbit.
001046	OPH 3204	A	Optics I	OPHT 3204	Introduces the human eye as an optical system by discussing physiology of image formation, optical relationships of eye structures, accommodation and effects of aging, refractive errors, astigmatism, prisms and Prentice's Rule, magnification, and basics of refractometry.
001047	OPH 3206	A	Optics II	OPHT 3206	Introduces principles of physical optics in which light is treated as a form of energy and part of the electromagnetic spectrum. Examines wave and particle theory, polarization, interference, fluorescence, and lasers. Students use ray tracing to examine refraction, reflection, diffraction, dispersion, vergence lenses and mirrors. The object-image relationships, magnification, and graphical analysis of simple and thick lens systems will also be discussed.
001048	OPH 3207	A	Contact Lens/Optic	OPHT 3207	Familiarizes the student with contact lenses including types, fitting procedures, care and storage procedures, indications for use, complications and patient instruction, spectacle dispensing, ordering, and verification.
001049	OPH 3208	A	Ophlmc Pharm	OPHT 3208	Detailed exploration of the various ophthalmic pharmaceuticals, indications for their use, sites of action, side effects, proper instillation of agents, and various abbreviations used for medications and their schedules.
001050	OPH 3209	A	Ocular Motility I	OPHT 3209	Acquaints the student with normal and abnormal binocular vision, including evaluation of motor and sensory status.
001051	OPH 3301	INV	Gen Med Knowldg/Term	OPHT 3201	Provides the student instruction in basic medical terminology, a general overview of human anatomy and physiology, and systemic illnesses.
001052	OPH 3303	INV	Ocular Anat/Physiol	OPHT 3203	Provides the student a detailed knowledge of the normal anatomy and physiology of the eye and orbit.
001053	OPH 3310	INV	Clin Practicum I	OPHT 3510	Introduction to procedures for care of ophthalmology patients. Students observe techniques in various specialty clinics performed by a faculty member. Many procedures will be observed, but emphasis will be on basic skills needed to begin patient examination. When possible, clinical applications will coincide with the classroom portions of the course. Students will be introduced to appropriate equipment and instruments for patient examination, assigned examination rooms to maintain, taught basic procedures for information gathering in an examination, and become contributing members of the health care team.
007185	OPH 3412	A	Clin Rotatn III(Prac)	OPHT 3412	Continues to develop clinical skills and build on previous clinical courses. The student will begin to gain more specialized skills. New skills will be demonstrated and supervised by one or more members of the faculty. Clinical applications and classroom portions of the course will coincide where possible. Return demonstrations will be required at various times during this course.
007074	OPH 3510	A	Clinical Practicum I	OPHT 3510	Introduction to procedures for care of ophthalmology patients. Students observe techniques in various specialty clinics performed by a faculty member. Many procedures will be observed, but emphasis will be on basic skills needed to begin patient examination. When possible, clinical applications will coincide with the classroom portions of the course. Students will be introduced to appropriate equipment and instruments for patient examination, assigned examination rooms to maintain, taught basic procedures for information gathering in an examination, and become contributing members of the health care team.
001054	OPH 3611	A	Clin Practicum II	OPHT 3611	Continuation of Clinical Practicum I, with further instruction in patient care and examination techniques. The course will build on the newly acquired basic skills as well as introduce new skills to be learned. More specific examination techniques will be observed, discussed, and return demonstrations given for these more advanced tasks. Students will begin to greet patients and start examinations. Clinical applications will reflect, where possible, the classroom portions of the course.
001055	OPH 3612	INV	Clin Practicum III	OPHT 3412	Continues to develop clinical skills and build on previous clinical courses. The student will begin to gain more specialized skills. New skills will be demonstrated and supervised by one or more members of the faculty. Clinical applications and classroom portions of the course will coincide where possible. Return demonstrations will be required at various times during this course.
004825	OPH 4101	A	Clin Skills Lab IV	OPHT 4101	Continue to develop clinical skills including familiarizing the student with advanced protocols required for performing the following ophthalmic tests and procedures: advanced tonometry, ophthalmic photography and angiography, advanced Goldmann perimetry.
001056	OPH 4108	A	CPR	OPHT 4108	Teaches student cardiopulmonary resuscitation for certification by the American Red Cross.
001057	OPH 4201	A	Ocular Motility II	OPHT 4201	Continuation of Motility I, and acquaints the student with advanced motility problems. The diagnosis and treatment of amblyopia are also studied.
007076	OPH 4202	A	Survey of Eye Diseases	OPHT 4202	Familiarizes the student with pathophysiological conditions of the globe and orbital region, encompassing both the more common conditions as well as some of the more unusual diseases.

001058	OPH 4204	A	Oph Photo/Angio	OPHT 4204	Familiarizes the student with the more common forms of ophthalmic photography, and includes lectures and hands-on training in fluorescein angiography, fundus and external photography, and slit-lamp biomicrography.
007077	OPH 4205	A	Ocu Emer&Ocuplastics	OPHT 4205	Familiarizes students with varying degrees of ocular emergencies, triage of patients, immediate interventions, long-term complications, and preventative measures. Familiarizes the student with various aspects of oculoplastics including surgical interventions.
001059	OPH 4207	A	Adv Concepts in Ophth	OPHT 4207	This course will use journals and ophthalmic literature to introduce students to on-going research in clinical and surgical ophthalmology, and re-introduce important ophthalmic concepts to enable the student to become more effective in assisting ophthalmologists deliver eye care to patients.
001060	OPH 4302	INV	Surv Eye Diseases	OPHT 4202	Familiarizes the student with pathophysiological conditions of the globe and orbital region, encompassing both the more common conditions as well as some of the more unusual diseases.
001061	OPH 4303	A	Special Testing	OPHT 4303	Familiarizes the student with special testing procedures not normally accomplished during routine ophthalmic examinations.
001062	OPH 4305	INV	Ocular Emer/Oculoplstcs	OPHT 4205	Familiarizes students with varying degrees of ocular emergencies, triage of patients, immediate interventions, long-term complications, and preventative measures. Familiarizes the student with various aspects of oculoplastics including surgical interventions.
001063	OPH 4306	A	Special Topics	OPHT 4306	Introduces student to concepts of billing and coding, and management and supervision of allied health personnel. Additional topics may be added as new techniques, protocols, and treatments emerge.
001064	OPH 4309	A	Oph Surg Assisting	OPHT 4309	Prepares the student to serve as a sterile scrub assistant, sterile first assistant, and circulator for the more common ophthalmic surgical procedures. Students will also learn about various ophthalmic surgical procedures.
001065	OPH 4310	INV	Clin Practicum IV	OPHT 4510	Continuation of previous clinical experiences completed in the junior year. Students will begin to develop autonomy in patient care, and basic skills will become more advanced. New tasks will be demonstrated first by a member of the faculty, followed by student performance. When possible, classroom portions will coincide with clinical experiences in this course.
001066	OPH 4412	A	Clin Practicum VI	OPHT 4412	The final course in patient care experiences. Students are expected to act as full members of the health care team in all clinical areas. Students will use this semester to advance their skills across the discipline.
008938	OPH 4510	A	Clinical Practicum IV	OPHT 4510	Continuation of previous clinical experiences completed in the junior year. Students will begin to develop autonomy in patient care, and basic skills will become more advanced. New tasks will be demonstrated first by a member of the faculty, followed by student performance. When possible, classroom portions will coincide with clinical experiences in this course.
001067	OPH 4511	A	Clin Practicum V	OPHT 4511	Continuation of previous clinical experiences in patient care. The student will be required to perform at a high level of competence in all phases of ophthalmic technology. Classroom instruction will decrease, as most of this material will already have been presented. Emphasis will be placed on advanced supervision techniques, specialized testing techniques, and autonomy.
011686	PAS 5111	A	Prof Issues 1	MPAS 5111	Application-based introduction to concepts of physician assistant profession. Topics include history of physician assistant profession, physician assistant organizations, accreditation, the health care team, documentation, oral presentations, professionalism, and ethical issues.
011574	PAS 5112	A	Professional Issues II	MPAS 5112	Continuation of professional issues in physician assistant profession. Topics include documentation, safety, patient education, disease prevention, cultural issues, ethical issues and specific health care settings.
011803	PAS 5113	A	Prof Issues III	MPAS 5113	Continuation of professional issues in physician assistant profession. Topics include documentation, health care systems and policy, patient education, cultural issues, ethical issues and specific health care settings.
011829	PAS 5114	A	Professional Issues IV	MPAS 5114	Continuation of professional issues in physician assistant profession. Topics include practice and prescriptive laws, reimbursement, malpractice, certification and licensure, health care resources, HIPAA guidelines, and specific health care settings.
011684	PAS 5121	A	Clin Reason 1	MPAS 5121	Introduction to critical thinking and application of medical knowledge and skills in a case-based small group setting. Emphasis this semester will be on eliciting appropriate medical histories, determining appropriate physical examination techniques to perform, and formulating a differential diagnosis. Cases will correlate with topics covered in the Physical Assessment course.
011571	PAS 5122	A	Clinical Reasoning II	MPAS 5122	Continuation of the utilization of critical thinking skills and application of medical knowledge through small-group case discussions. Focus will shift from medical history taking and physical examination to placing more emphasis on laboratory and diagnostic test ordering/interpretation and patient management. Cases will correlate with topics covered in the Principles of Medicine I course.
011804	PAS 5123	A	Clin Reasoning III	MPAS 5123	Continuation of the utilization of critical thinking skills and application of medical knowledge through weekly small-group case discussions. Emphasis on laboratory and diagnostic test ordering/ interpretation and patient management. Cases will correlate to topics being covered in the Principles of Medicine II course.
011685	PAS 5131	A	Patient Communication	MPAS 5131	Course emphasizes interviewing techniques and interpersonal communication skills across the life span with emphasis on cultural diversity issues. Standardized patients will be utilized to enhance student interviewing skills.
011573	PAS 5132	A	Patient Communication II	MPAS 5132	Course builds on concepts covered in Patient Communication I with emphasis on interviewing techniques and interpersonal communication skills across the life span and emphasis on cultural diversity issues. Standardized patients will be utilized to enhance student interviewing skills.
011572	PAS 5143	A	Clinical Nutrition	MPAS 5143	Study of the nutritional care of the primary care patient with topics including geriatric, pediatric, diabetic, renal and cardiac patients and pregnant and lactating patients. Course also covers vitamin and mineral deficiencies, proper dieting, nutritional supplements, herbal supplements, nutritional medical disorders, enteral and parenteral nutrition, and patient nutritional assessment.
011830	PAS 5144	A	Medical Genetics	MPAS 5144	Introduction to medical genetics. Topics include rules of inheritance, human pedigrees, chromosomal abnormalities, genetic disease, genetic screening and counseling, and genetic pharmacotherapy.
011831	PAS 5233	A	Medical Ethics	MPAS 5233	Introduction to ethical issues that occur in clinical medicine. Topics include informed consent, confidentiality, nonmaleficence and beneficence, patient decision-making capacity, futile intervention, advance directives, end-of-life issues, assisted suicide, abortion, human research, and health care provider issues. Special topics in surgery, pediatrics and women's health are also covered.
011569	PAS 5252	A	Pharmacotherapy I	MPAS 5252	Addresses the pharmacotherapeutic principles of specific medications utilized in disease management. Course includes drug identification, indications, contraindications, adverse effects, drug interactions, cost, routes of administration, therapeutic monitoring, patient education and pertinent mechanism of action of specific drugs. Course topics will correlate with topics being presented in Principles of Medicine I course.

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011805	PAS 5253	A	Pharmacotherapy II	MPAS 5253	Addresses the pharmacotherapeutic principles of specific medications utilized in disease management. Course includes drug identification, indications, contraindications, adverse effects, drug interactions, cost, routes of administration, therapeutic monitoring, patient education, and pertinent mechanism of action of specific drugs. Course topics will correlate with topics being presented in Principles of Medicine II course.
011832	PAS 5273	A	Surgical Medicine	MPAS 5273	Course involves the evaluation, diagnosis, and management of the surgical patient. The course addresses pre and post-op management, common surgical procedures and complications, indications and contraindications, surgical techniques and instruments, sterile technique, operating room protocol, anesthesia, and an introduction to the surgical subspecialties.
011806	PAS 5281	A	Int to Evid Bas Medicine	MPAS 5281	Introduction to utilizing the best available evidence in current medicine in addition to clinical experience to more effectively manage patients. Topics will include a brief overview of clinical epidemiology, research design, biostatistics, formulating a clinical question, database searching, and interpretation of medical literature.
011833	PAS 5282	A	FDN Evidenced Based Med.	MPAS 5282	Study of utilizing the best available evidence in current medicine in addition to clinical experience to more effectively manage patients. Course builds on the foundation established in first EBM course and utilizes a journal club approach to emphasize the application of EBM principles.
011681	PAS 5342	A	Clin Physiol	MPAS 5342	Study of the physiological function of the cell and organ systems with introduction to pathophysiology of disease in the systems. Systems include cardiovascular, respiratory, digestive, urinary, reproductive, nervous, musculoskeletal, special senses, lymphatic, endocrine and integument. Course topics will correlate with the topics presented in PA Gross Anatomy.
011683	PAS 5351	A	Clin Pharmacology	MPAS 5351	Study of the physiologic and biochemical aspects of the major classes of pharmacological agents. Brief overview of pharmacokinetic and pharmacodynamic principles of pharmacology. Major concepts involve drug classification, mechanism of action, absorption, distribution, metabolism, elimination, and dose-response relationships of the different drug classes. Major drug interactions and adverse effects of specific classes will be covered.
011568	PAS 5361	A	Diag Assessment I	MPAS 5361	Study of ordering and interpreting laboratory, imaging and diagnostic tests utilized in current medical practice. Course includes indications, contraindications, precautions, complications, techniques, cost-effectiveness, patient preparation, and ordering and interpretation of specific labs and tests. Course will correlate with the topics being addressed in Principles of Medicine I course.
011807	PAS 5362	A	Diag Assessment II	MPAS 5362	Study of ordering and interpreting laboratory, imaging and diagnostic tests utilized in current medical practice. Course includes indications, contraindications, precautions, complications, techniques, cost-effectiveness, patient preparation, and ordering and interpretation of specific labs and tests. Course will correlate to the topics being addressed in Principles of Medicine II course.
011570	PAS 5371	A	Behavioral Medicine	MPAS 5371	Study of psychological and behavioral medical conditions. Course addresses the signs and symptoms, etiology, diagnosis, differential diagnosis, and treatment of behavioral disorders. Also includes conducting a psychiatric interview, classifying disorders, substance abuse, eating disorders, sleep disorders, abuse and neglect, death and dying, childhood disorders, psychological testing, psychological therapy, and pharmacological agents.
011808	PAS 5372	A	Emergency Medicine	MPAS 5372	Presentation, diagnosis, and management of trauma and acute care patients who present to the emergency department. Topics involve multiple trauma, shock, wound management, environmental injuries, toxicology, orthopedic injuries, acute general medical and surgical diseases, pain control, emergency procedures, bioterrorism, and disaster medicine. Course also covers emergent conditions in cardiology, respiratory, pediatrics, gynecology, obstetrics, endocrinology, and hematology and oncology.
011834	PAS 5394	A	Principles of Med. III	MPAS 5394	An advanced medicine course that emphasizes pediatric, geriatric and rehabilitative medicine. Pediatric and geriatric modules emphasize etiology, signs and symptoms, differential diagnosis, diagnosis, prognosis, and management of medical conditions specific for the life-span. The rehabilitative module involves an overview of rehabilitative medicine, assistive devices, gait assessment, and stroke and cardiac rehabilitation. Laboratory includes infant evaluation, child evaluation, geriatric evaluation, functional assessment, and the use of assistive devices.
011680	PAS 5441	A	PA Gross Anatomy	MPAS 5441	Study of basic gross and functional anatomy in an organ-system approach. Course covers cardiovascular, respiratory, digestive, urinary, reproductive, nervous, musculoskeletal, special senses, lymphatic, endocrine and integument systems by lecture, laboratory and independent learning activities. The laboratory utilizes anatomical models, histology slides, prosected cadavers, radiographic images, and virtual anatomy software.
011682	PAS 5591	A	Physical Assess	MPAS 5591	An introduction to clinical medicine. Course includes eliciting a medical history; performing physical examination; reviewing anatomy, physiology and pathophysiology of common diseases; and differentiating between normal and abnormal physical exam findings. A physical examination skills laboratory will be held weekly to permit students to practice history and physical exam techniques. Students will also experience patient encounters throughout the semester in which they will elicit a medical history from patients in an inpatient or outpatient setting and then appropriately document and orally present the patient findings.
011567	PAS 5892	A	Prin of Medicine I	MPAS 5892	Foundational principles of clinical medicine covered in a discipline based approach. Each module will review anatomy and physiology of specific systems. Instruction will cover pathophysiology, etiology, incidence, signs and symptoms, differential diagnosis, diagnostic techniques, diagnosis, prognosis, and management of specific common diseases. This course will include a brief overview of the microbiological and immunological aspects of medicine. Topics will include normal flora, organism classification and transmission, and pathogenesis of infection of microbial pathogens, cell-mediated and humeral immunity, hypersensitivity reactions, and immune-mediated diseases. A weekly clinical procedural laboratory will correlate with the medical topic being covered in the lectures. Students will experience clinical patient encounters in outpatient or inpatient settings several times during the semester and then appropriately document and orally present the patient findings.

011809	PAS 5893	A	Prin of Medicine II	MPAS 5893	Foundational principles of clinical medicine covered in a discipline-based approach. Each module will review anatomy and physiology of specific systems. Instruction will cover pathophysiology, etiology, incidence, signs and symptoms, differential diagnosis, diagnostic techniques, diagnosis, prognosis, and management of specific diseases. A weekly procedural laboratory will correlate with the discipline topic being covered in the lectures. Students will experience clinical patient encounters in outpatient or inpatient settings several times during the semester and then appropriately document and orally present the patient findings.
012550	PAS 6101	A	Summative Evaluation	MPAS 5895	PA students will complete a one week comprehensive review and evaluation of expected physician assistant knowledge and skills. A combination of written examinations, clinical procedural skills testing, objective structured clinical examinations (OSCEs) and diagnostic interpretation will be utilized.
012551	PAS 6201	A	Capstone Project	MPAS 5896	Course focuses on applying evidence-based medicine principles to a patient case study or original research. The emphasis of the project will be on formulating a clinical question, summarizing background information about the medical topic, conducting an extensive literature search about the topic, and critiquing journal articles on the topic. The goal of the project is to answer the clinical question utilizing current research and guidelines, and then apply it to the patient case or research.
012552	PAS 6321	A	Elective Rotation 1	MPAS 5901	PA Student will be permitted to select an area/discipline of medicine in which he/she desires to gain additional clinical experience. A list of elective clinical rotation settings will be provided to the student including the general core rotations and then subspecialty areas of medicine and surgery.
012553	PAS 6322	A	Elective Rotation 2	MPAS 5902	PA Student will select an area/discipline of medicine in which he/she desires to gain additional clinical experience. A list of elective clinical rotation settings will be provided to the student including the general core rotations and subspecialty areas of medicine and surgery.
012665	PAS 6511	A	Clinical Rotation I	MPAS 5951	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012666	PAS 6512	A	Clinical Rotation 2	MPAS 5952	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012667	PAS 6513	A	Clinical Rotation 3	MPAS 5953	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012668	PAS 6514	A	Clinical Rotation 4	MPAS 5954	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012669	PAS 6515	A	Clinical Rotation 5	MPAS 5955	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012424	PAS 6516	A	Clinical Rotation 6	MPAS 5956	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.

012425	PAS 6517	A	Clinical Rotation 7	MPAS 5957	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012426	PAS 6518	A	Clinical Rotation 8	MPAS 5958	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012427	PAS 6519	A	Clinical Rotation 9	MPAS 5959	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
012563	PAS 6520	A	Clinical Rotation 10	MPAS 5960	These clinical rotation courses are a series of supervised clinical experiences for students who have completed the didactic phase of the Physician Assistant Program. The supervised clinical experience enables students to meet program expectations and acquire the competencies needed to practice as a physician assistant. The experiences will involve preventive, emergent, surgical, acute and chronic clinical experiences with patients across the life span. The clinical experience descriptions include family practice, outpatient internal medicine, inpatient medicine, pediatric medicine, women's health, surgical medicine, emergency medicine, behavioral medicine, orthopedic medicine, and geriatric medicine.
010382	PATH 500V	A	General Pathology	PATH 5100	Basic course in pathology offered for second year medical students. Lectures and laboratory work on the principles of disease. Prerequisite: (1) graduate biochemistry or undergraduate level; (2) ANAT 5027 or equivalent; and (3) undergraduate biology minor will satisfy requirements (1) and (2), or consent of instructor.
010385	PATH 505V	A	Research in Pathology	PATH 5800	
010388	PATH 600V	A	Master's Thesis	PATH 5900	
011244	PATH 5041	A	Seminar	PATH 5700	
010384	PATH 5043	A	Molec & Biochem Pathobiol	PATH 5101	Designed for graduate students in basic science and health related fields seeking an introduction to the principles of general pathology. The pathophysiology of selected diseases will be discussed in depth, with a focus on the molecular and biochemical mechanisms involved. Through discussions of published research, students will develop an appreciation of how basic and clinical research contribute to the understanding and treatment of specific diseases. Prerequisite: Consent of instructor.
010386	PATH 5063	A	Human Cancer	PATH 5102	This course provides an overview of cancers affecting humans. Each cancer that is discussed will be presented from the perspective of both the clinician and basic scientist. Topics covered include both solid (e.g., breast, prostate, colon, liver, ovarian, pancreatic, lung cancer) and non-solid (e.g., leukemia/myeloma/lymphoma) tumors. Prerequisite: Consent of instructor
000172	PBHL 595V	A	Special Topics in Biostatistic	BIOS 5001	Advanced work in specialized fields such as bioassay, multivariate analysis, time series, etc. Credit, 1 to 3 hours per semester, limit of 9 hours. Prerequisite: Permission of faculty advisor and course instructor.
000173	PBHL 596V	A	Special Topics in Epi	EPID 5000	Provides an opportunity for students to engage in detailed study of a topic relevant to epidemiology, with the guidance of a faculty supervisor. A completed and signed directed study contract is required at the time of registration. (Requires prior approval of faculty advisor and independent study faculty supervisor.)
000175	PBHL 602V	A	Directed Study	COPH 5200	Provides an opportunity for students to engage in detailed study of a public health topic relevant to their program of study, with the guidance of a faculty supervisor. A completed and signed directed study contract is required at the time of registration. (Requires prior approval of faculty advisor and independent study faculty supervisor.)
012627	PBHL 900V	A	Independent Study	COPH 6000	This course provides in-depth consideration of specialized subjects not covered in general courses.
012632	PBHL 920V	A	Mentored Research	COPH 6600	This course is intended to help the student establish a foundation for dissertation research, identify a Doctoral Advisory Committee, and prepare for the candidacy exam. It provides supervised experience in ongoing projects through which the student becomes familiar with the application of behavioral theory and scientific methods in public health research. Guidance from the mentor will help the student develop a dissertation topic, define the knowledge base and skills required to address the dissertation topic, and initiate discussions with potential Doctoral Advisory Committee members. Prerequisite: Doctoral student standing and permission of instructor.
012633	PBHL 930V	A	Dissertation Research	HBHE 6800	The doctoral dissertation is a culminating experience that requires the student to synthesize knowledge and apply behavioral theory and scientific methods in an independent research project. A written dissertation proposal must be presented and defended at a meeting of the Doctoral Advisory Committee. The completed dissertation must also be presented and successfully defended during a meeting of the Doctoral advisory Committee. The final written product must be submitted in accordance with the guidelines contained in Regulations for Preparing Theses and Dissertations. Prerequisite: Doctoral student standing and permission of instructor.

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007096	PBHL 940V	A	Dir Study	COPH 6400	
012382	PBHL 960V	A	Directed Study in PH Prac	COPH 6700	Provides an opportunity for students to engage in the detailed study of a public health practice area that is relevant to their program of study, with the guidance of a faculty supervisor. A completed and signed directed study contract is required at the time of registration; requires prior approval of faculty advisor, course instructor, and the DrPH Faculty Leadership Chair. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; or permission of instructor.
012383	PBHL 970V	A	Special Topics in PH Lead	COPH 6501	(Offered intermittently) Course offerings from visiting professors, experimental offerings of new courses, or in-depth examination of a current topic in public health leadership; (requires prior approval of faculty advisor, course instructor, and the DrPH Faculty Leadership Chair). Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; or permission of instructor.
012384	PBHL 980V	A	Directed Study PH Lead	COPH 6800	Provides an opportunity for students to engage in the detailed study of a public health leadership topic/experience that is relevant to their program of study, with the guidance of a faculty supervisor; a completed and signed directed study contract is required at the time of registration; requires prior approval of faculty advisor, course instructor, and the DrPH Faculty Leadership Chair. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; or permission of instructor.
012674	PBHL 982V	A	Directed Research Studies	EPID 6700	The Directed Research Studies course provides the student with hands-on experience in scientific and public health practice research during their first year in the program. Working with a faculty advisor, the student will gain experience in: completing literature searches in order to frame research questions; scientific writing, including the preparation and submission of grants and manuscripts; developing and implementing research protocols; obtaining IRB assurance for research projects; database management and quality control of data; data analysis; working on collaborative research and writing teams; and the responsible conduct of research. Students will spend a minimum of 200 contact hours each semester (maximum of 300 hours per semester) and will enroll in 6 credit hours (3 credit hours in each of 2 consecutive semesters). Prerequisites: Enrollment as a doctoral student in the PhD Program in Epidemiology.
012435	PBHL 986V	A	Directed Rsh Studies	HPMT 6800	Practical research experience involving working on a research project under the supervision of a program faculty member with significant experience in health services and policy research. Students will complete three semester-long rotations (nine hours) of study in one or two substantive areas of policy of research. Prerequisites: Doctoral student status.
012436	PBHL 990V	A	Doctoral Dissert Resch	HPMT 6900	Independent research on a health system topic led by the doctoral candidate and guided by the approved dissertation committee. Students will complete at least 18 hours of dissertation research including research proposal development and conduct and defense of research. Prerequisites: Doctoral student status and completion of comprehensive exams.
009816	PBHL 997V	A	Doctoral Practicum	COPH 6989	The Doctoral Practicum consists 270 hours of field experience under the joint direction of a COPH faculty member and a practicing professional with leadership experience in a public health institution. A written report specifying activities, potential products and outcomes of the experience is required upon completion of the practicum.
012380	PBHL 999V	A	DrPH Dissertation	COPH 6999	The DrPH Doctoral Dissertation Project is a culminating experience that requires the student to synthesize and integrate knowledge by applying learned theories and principles to an area of public health relevant to the health needs of Arkansans. A written product must be submitted and must take the form of a dissertation, "n" manuscript(s) that is/are suitable for publication in a national-level public health journal(s), a technical report with supplemental materials if applicable accompanied by a grant proposal, case study(ies) from initiation to completion/ethnography and/or other similar scholarly document approved by the student's dissertation committee. The written product must be presented and successfully defended. Prerequisites: PBHL 997V: Doctoral Practicum; PBHL 9981: Doctoral Projects Seminar and permission of the Dissertation Committee.
000001	PBHL 5003	A	Intro Public Health	HPMT 5003	An introduction to basic and contemporary issues of public health, including tools of community-based health assessment, surveillance, health promotion, disease prevention, policy and ethics will be presented. This course provides an overview in the diverse areas of public health practices.
011157	PBHL 5011	A	Infectious Disease	ENVH 5011	An introductory course which provides a foundation of biology concepts necessary for the practice of public health. The lectures in this course will focus on the biology basics related to infectious disease including an overview of infectious disease epidemiology; the different types of pathogens; the immune system and response to pathogens; treatment, prevention, and control of infectious disease; and the role humans play in the evolution of infectious diseases. Each lecture series will relate covered biological concepts back to examples of common infectious diseases affecting US and worldwide populations. The course will also assist students in their preparations for the National Board of Public Health Examiners' (NBPHE) Certification Exam.
000145	PBHL 5013	A	Biostatistics I	BIOS 5013	Introductory topics in descriptive biostatistics and epidemiology, database principles, basic probability, diagnostic test statistics, tests of hypotheses, sample-size estimation, power of tests, frequency cross-tabulations, correlation, non-parametric tests, regression, randomization, multiple comparisons of means and analysis of variance for one and two-factor experiments.
000061	PBHL 5023	A	Biostats II	BIOS 5212	Multiple regression and linear models for analysis of variance. Experimental Designs with factorial arrangement of treatments, repeated measures, and multiple covariates. Introduction to logistic and non-linear regression. Prerequisite: BIOS 5013.
000148	PBHL 5033	A	Bio III Ana & Lin Mod	BIOS 5223	This course is designed to give students an overview of applied multivariate analysis. Some of the topics include principal component analysis, exploratory/confirmatory factor analysis, path analysis, structural equation model, discriminant analysis and classification, clustering methods and algorithms, Hotelling's T-square, and MANOVA. Prerequisite: Biostatistics II
000149	PBHL 5043	A	Occ & Env Haz Cntrl	ENVH 5202	Detailed study of the principles and practices involved in the control of environmental health hazards, with particular attention to occupational hazards. Topics covered will include ventilation for airborne contaminants, respiratory protection, electrical and mechanical safety methods, and the control of hazards from noise, vibration, radiation, heat, biohazards, and chemical hazards.

000182	PBHL 5063	A	Prin Tox Pbl Hlth	ENVH 5302	This course focuses on the application of toxicology to protecting and improving public health. Toxicology is an interdisciplinary science. Toxicology is a tool to evaluate the hazards to health from toxicants in the environment, community and workplace. Toxicological methods including the detection of. Examples of regulatory application are provided. Emphasis is placed on dose response relationships and the risk assessment synergism between animal toxicology and epidemiology. The role and responsibility of toxicology in the function of the EPA, FDA, CDC, ATSDR, OSHA, NIOSH, ADH and ADEQ is articulated by the instructors and demonstrated in classroom exercises and presentation of case studies. When advantageous, hazard analysis and risk assessment is explained in the context of site specific and community based exercises and case studies. The role of toxicology in setting policy is demonstrated utilizing the "whose risk and whose benefit" approach Environmental Justice as a benchmark.
000048	PBHL 5073	A	Reg of Env Hlth	ENVH 5221	Operational and conceptual toxicology with the statutory basis for and aspects of governmental regulation of environmental hazards to public health. Provides potential toxicologists with a better understanding of the relationships that exist between scientific aspects of toxicology and their application through the statutory framework and related governmental regulations in the public health arena.
011340	PBHL 5083	A	Health Admin Residency	HPMT 5285	A three-month administrative residency in a health institution or agency; work experience under a qualified health administrator with selected field projects and written reports. The residency is designed to provide "real world" experience in a healthcare organization, and so that students may apply program competencies learned in their first year of study. Full-time students perform their residency during the summer between their first and second years of study. Prerequisite: Completion of twenty-four (24) hours in the MHA program or permission of instructor.
007226	PBHL 5093	A	Management Project	HPMT 5286	Administrative problem defined by a health institution or agency. This experience is designed so that part-time students may be exposed to "real world" experience in a healthcare organization. The student's Preceptor and faculty supervisor develop a project which will be mutually beneficial to the student and the sponsoring organization. Part-time students complete this project during a summer session. PREREQUISITE: The completion of twenty-one (21) hours in the MHA program.
011404	PBHL 5101	A	Biostat I Computer Lab	BIOS 5111	This course will introduce statistical software computing associated with topics discussed in Biostatistics I. The primary statistical software will be R. R is an extremely versatile and powerful statistical package that is becoming very popular among researchers in virtually every research realm. Unlike most statistical software, R is free and is constantly being enriched by users themselves. Additionally, R can be downloaded and compiled on almost any computer platform, thus allowing students to use their own computer in the course and beyond. Topics include inputting data, calculation of descriptive statistics, t-tests, confidence intervals, chi-square test, regression, analysis of variance, and non-parametric methods. This course is designed to enrich computing skills and simultaneous or past enrollment in Biostatistics I is not required, but is highly recommended. Students should have a background in fundamental statistics. Students must provide their own notebook computer.
000146	PBHL 5113	A	Env & Occ Hlth	ENVH 5102	This course is intended to provide students a detailed overview of the fields of environmental and occupational health, with an emphasis on the practical aspects of the recognition, evaluation and control of chemical, physical and biological hazards, including basic quantitative assessment of these hazards. Additional topics include significant legal and historical influences as well as currently important issues in the field.
000032	PBHL 5123	A	Hlth Care Sys	HPMT 5103	Analysis of system-wide issues related to the delivery of health in the United States, including organizational arrangements, financing, health status issues, health insurance, health manpower, cost of health care, quality of health care, access and regulatory issues.
000002	PBHL 5133	A	Intro to HBHE	HBHE 5104	Introduction to health behavior, health education, theory, health disparities, behavioral research, and community-based health promotion practice; defines key terms and concepts; intrapersonal, interpersonal, and community level theories of health behavior; variables influencing responses to interventions; interpersonal and community level theories examining elements in the environment affecting health behavior; basic planning models; and includes discussion of ethical principles and application of theory in culturally distinct and/or other unique populations.
007227	PBHL 5143	A	Mgmt of Health Care Org	HPMT 5114	The purpose of this course is to expose graduate students to the fundamental management issues and techniques that can be used to administer a health care organization. Students will gain experience applying these issues and techniques to a health care organization. The students are also expected to identify and apply relevant methods for evaluating health policies and programs and for assessing the performance of organizations and professors in the areas of quality, safety, accessibility, efficiency and equity.
000429	PBHL 5153	A	Env & Ind Bio Hzds	ENVH 5404	Biological hazards associated with exposures via foods, water, air, vectors (human, animal and insect, parasites), drugs, medical waste, bioterrorism and the workplace are evaluated. The course covers impact of direct and indirect human perturbations of the environment, disease control and prevention, surveillance and regulations regarding protecting the public health from biological hazards. Prerequisites: Eight hours of biology coursework, or permission of the instructor
007228	PBHL 5163	A	Intro to HS Financ Mgmt	HPMT 5134	Basic accounting/financial principles and practices as applied to health institutions and agency administration; emphasis on budgeting, financial analysis, cost management, third-party reimbursement systems; working capital management; capital investment decisions, and management of financial risk.
011788	PBHL 5172	A	Epi I Lab	EPID 5110	Epidemiologists gather, analyze, interpret, evaluate and present information which is meant for use in decisions about how to prevent disease and improve population health. This course is designed to be taken with PBHL 5173: Epidemiology I and it aims to provide experience in the application of basic techniques used in epidemiology research and practice. Emphasis is placed on calculation and interpretation of measures of morbidity, mortality, and association; disease transmission and risk; major epidemiologic study designs; and evaluation of screening tests.
000030	PBHL 5173	A	Epi I	EPID 5112	This course, the first of the sequence offered by the department of epidemiology, introduces the principles and methods of epidemiologic research and practice. It presents an overview of the history of epidemiology and the current thinking, methods, , measures of morbidity and mortality, disease transmission and risk, major epidemiologic study designs, measures of association, sources of error including bias, confounding and interaction, evaluation of screening tests, inference and causality, with emphasis on practical topics such as public health surveillance and outbreak field investigations.
011003	PBHL 5193	A	Tobacco Cessation	COPH 5145	Provides health care professionals with the necessary knowledge and skills for providing comprehensive tobacco cessation counseling to patients who use tobacco across the lifespan. (Requires prior approval of faculty advisor and course instructor.)

011405	PBHL 5201	A	Biostat II Computer Lab	BIOS 5200	This course will introduce statistical software computing associated with topics discussed in Biostatistics II. The primary statistical software will be R. R is an extremely versatile and powerful statistical package that is becoming very popular among researchers in virtually every research realm. Unlike most statistical software, R is free and is constantly being enriched by users themselves. Additionally, R can be downloaded and compiled on almost any computer platform, thus allowing students to use their own computer in the course and beyond. Topics include inputting data, calculation of descriptive statistics, multiple regression, general linear models, experimental designs, logistic regression, and factorial analysis of variance. This course is designed to enrich computing skills and simultaneous or past enrollment in Biostatistics II is not required, but is highly recommended. Students should have a background in fundamental statistics and topics associated with Biostatistics II. Students must provide their own notebook computer.
011176	PBHL 5211	A	Chronic Disease Biology	ENVH 5002	Biology for Public Health is an introductory course which provides a foundation of biology concepts necessary for the practice of public health. The lectures in this course will focus on the biology basics related to chronic disease including an overview of Mendelian genetics; cardiovascular disease; diabetes; respiratory disease; as well as the biology of addiction and mental illness. Each lecture series will relate covered biological concepts back to major issues surrounding chronic diseases affecting US and worldwide populations. The course will also assist students in their preparations for the National Board of Public Health Examiners' (NBPHE) Certification Exam
000060	PBHL 5213	A	Hlth Prom Wrksite	HBHE 5106	Conducting needs assessment, planning, implementing and evaluation health promotion programs in the worksite. Course activities include lecture/discussion, interactive video, journal writing, and class projects.
000310	PBHL 5223	A	Epi Chr Diseases	EPID 5325	This course is designed for graduate students interested in chronic disease epidemiology. Chronic diseases to be discussed in this course include cardiovascular diseases, obesity, diabetes mellitus, cancers and oral health. Emphasis will be on both the descriptive epidemiology and pathogenesis of each specific disease. Screening of chronic diseases will be also covered. Prerequisites: EPID 5112: Epidemiology I
000115	PBHL 5233	A	Stat Meth Clinical Trials	BIOS 5233	Principles underlying the planning, management, and implementation of modern clinical trials, the application of statistical methods used in the analysis of data from clinical trials, and the interpretation of results. Basic statistical techniques used in design and analysis of Phase I-III single- and multicenter trials. Recommended prerequisites include knowledge of basic statistics, familiarity with SAS software, and knowledge of a clinical area.
009807	PBHL 5243	A	Health Sys Strategic Plan	HPMT 5124	Covers the major types of health planning in the U.S. including related supply regulation. Strategic, business and market-based planning are emphasized. Several exercises introduce students to relevant data sources and prepare them to develop a market-based health services plan. Prerequisites: BIOS 5013: Biostatistics I; HPMT 5114: Management of Health Care Organizations.
000162	PBHL 5253	A	Health Info Sys for Admin	HPMT 5212	Course is designed to expose students to the purpose and value of health information systems. Various components of such systems, how such systems are designed and how information provided by such systems can assist day-to-day operations as well as strategic planning. Prerequisite: HPMT 5103: The Health Care System.
000055	PBHL 5263	A	Env Exposure Assmnt	ENVH 5222	Quantitative introduction to the process of environmental hazard, exposure and dose evaluation for inhalation, ingestion, and dermal absorption routes. Particular attention is given to air contaminant measurement principles and interpretation of monitoring results. Includes the assessment and modeling of workplace, community, and residential environments, and the associated sources and pathways of chemical exposure.
009802	PBHL 5273	A	Health Economics	HPMT 5104	The course provides an overview of economic theory with health care applications. Economics is the study of optimal allocation of scarce resources. Health economics considers the allocation of health care resources to evaluate whether more efficient or equitable distributions can be achieved. Economics concepts and principles will be introduced, followed by the application of these principles to health care, health management, and health policy. Prerequisites: BIOS 5013: Biostatistics I; HPMT 5103: The Health Care System; or permission of instructor.
007229	PBHL 5283	A	Public Health Law & Eth	HPMT 5203	Introduction to the legal and ethical issues encountered in health policy and management. Course content includes: constitutional authority and limits on governmental intervention in public health (i.e., individual rights vs. society's rights); the functions of and interaction between courts, legislatures, regulators; the role of the courts in health policy and health care delivery; how to recognize legal issues and communicate with attorneys; how law will affect students as strategic thinkers in health care positions; how to apply basic tort and contract principles; and the process of public health regulation and potential legal barriers to public health strategies. Specific legal topics will vary, but will usually include: the nature and scope of public health authority; constitutional constraints on public health initiatives; liability; fraud and abuse; privacy and confidentiality; regulatory oversight of the health care system; legal requirements for access to health care; nondiscrimination; conflicts of interest; and a review of ethical and moral issues commonly faced in health care management. Prerequisites: HPMT 5003: Introduction to Public Health; HPMT 5103: The Health Care System
011407	PBHL 5293	A	Health Law	HPMT 5201	Basic principles and practices of law affecting the administration of health institutions and medical practices, with emphasis on the legal aspects of patient care and treatment, torts and contractual obligations, rights and obligations of governing boards, medical staff and employees, and labor law.
011179	PBHL 5311	A	Current Issues Biology	ENVH 5003	Biology for Public Health is an introductory course which provides a foundation of biology concepts necessary for the practice of public health. The lectures in this course will focus on the biology basics related to current topics in public health including an overview of the biology of growth and development, biology of aging, biology of cancer, micronutrients and dietary supplements, and obesity. Each lecture series will relate covered biological concepts back to major issues surrounding current diseases affecting US and worldwide populations. The course will also assist students in their preparations for the National Board of Public Health Examiners' (NBPHE) Certification Exam.
000324	PBHL 5313	A	Nonparametric Methods	BIOS 5313	This course will provide an overview of nonparametric techniques with a primary focus on their application to healthcare data. Appropriate techniques for one-sample and multi-sample data will be covered as well as the use of nonparametric methods to assess correlation, independence, and linear relationships. Students will learn when it is more appropriate to use a nonparametric approach instead of the usual parametric tests, and which techniques have been incorporated into popular statistical software. Prerequisite: BIOS: 5013: Biostatistics I.
000423	PBHL 5323	A	Pharm Policy Hlthcare Sys	HPMT 5323	This course provides an overview of current pharmaceutical policies and their effect on the health care system. The focus is on national pharmaceutical issues as they impact consumers, health care professionals, and organizations. Key areas covered include pharmaceutical trends, industry, managed care, national drug policies, drug-related health behaviors and outcomes.

012464	PBHL 5333	A	Application in HS Finance	HPMT 5333	The course is designed to present in-depth discussions on topics related to financial management in a healthcare setting. It focuses on the application of financial management principles and concepts to health care organizations. A broad range of issues will be discussed and evaluated with assignments to familiarize students with both theoretical concepts and practical application of financial management principles in the current operating environment. Computerized software packages will be utilized to emphasize the application of financial techniques to problems in health care management and/or health services delivery. Students should have a basic understanding of health care system, health care management, health care statistics and information systems, financial accounting and Excel. Prerequisites: BIOS 5013: Biostatistics I; HPMT 5103: The Health Care System; HPMT: 5114 Management of Health Care Organizations; HPMT 5134: Introduction to Health Systems Financial Management.
007231	PBHL 5353	A	Seminar in HR Mgmt	HPMT 5223	Variety of situations and techniques involved in the management of human resources in health care institutions, including ethics, recruitment, training and development, grievance procedures, wage and salary administration, affirmative action, labor unions, and professional credentials. Prerequisites: HPMT 5003: Introduction to Public Health or HPMT 5103: The Health Care System
011423	PBHL 5363	A	Intro to Hlth Pol & Polit	HPMT 5132	Examines the nature of public policy making process within the various core functions of public health, and the influence of the political, bureaucratic, and social environment in which policy decisions are made. The consequences of health policy decisions and the key dimensions of current public health policies will also be examined. In addition to conceptual discussions of each of the above, the course includes evaluation of case studies of public health policy decisions and discussions with policy makers from multiple levels of government and multiple backgrounds. Prerequisites: HPMT 5003: Introduction to Public Health; HPMT 5103: The Health Care System.
011811	PBHL 5371	A	Epi II Lab	EPID 5323	This is an intermediate level course in epidemiologic theory and methodology that prepares students who have completed the basics of Epidemiology to the study of advanced methods. This course is designed to integrate methods introduced in Epidemiology II and its application to scenarios. Solidifies understanding of concepts in Epidemiology II by working through complex exercises and rigorous critiquing of studies and designing own studies given real life scenarios and their challenges researches face. Prerequisites: EPID 5112: Epidemiology I, EPID 5110: Epidemiology I Lab, HPMT 5013: Biostatistics I, EPID 5322 Epidemiology II. Mandatory for students in the Epidemiology track. Concurrent or previous enrollment in BIOS 5212: Biostatistics II or approved equivalents.
000177	PBHL 5373	A	Epi II	EPID 5322	This is an intermediate level course in epidemiologic theory and methodology that prepares students who have completed the basics of Epidemiology to the study of advanced methods. Epidemiology II builds on the concepts, methods, and strategies introduced in Epidemiology I. The course focuses on methodologic tools and skills needed to conduct or evaluate epidemiologic research; emphasizes on tools and skills to assess study designs, data collection, threats to study validity and reliability, biases e.g. confounding and heterogeneity of effects. Prerequisites: EPID 5112: Epidemiology I, EPID 5110: Epidemiology I Lab, BIOS 5013: Biostatistics I.
009800	PBHL 5383	A	HC Policy & Am. Society	HPMT 5113	This semester long course is designed to provide each student with the opportunity to study, in dept, the many facets of our American history delivery and financing system.
011408	PBHL 5393	A	Management Capstone	HPMT 5340	Policy and decision making processes in health institutions and agencies, uses case studies of health institutions and agencies. This course is designed to provide a culminating experience, and is specifically designed to provide students with experience applying many of the competencies learned earlier in the program. Culminating experience typically completed in last semester of the student's course of studies; or permission of instructor.
000325	PBHL 5413	A	Health Care Reform	HPMT 5107	This seminar will address key policy issues facing American health care. The seminar is interdisciplinary, and is open to students pursuing study in public health, law, or public policy. In this course we will take up (1) problems of cost, access, justice, and quality in the U.S. health care system; (2) models for health care delivery in other countries such as Canada, the United Kingdom, and Japan; and (3) proposals for reform of the health care system offered by the various presidential candidates at the national level, and reforms implemented at the state level in (e.g.) Massachusetts and Hawaii. We will explore the political and structural obstacles to achieving health care system reform at the national level. Prerequisites: HPMT 5003: Introduction to Public Health; HPMT 5103: The Health Care System; or permission of instructor.
000326	PBHL 5423	A	Child Hlth Pgm Comm Hlth	HPMT 5108	The course will explore the role of child health programs in public health with an emphasis on community health. Programs at the local, state and national levels will be addressed. Also, international programs in both third world, and post-industrial countries will be discussed with emphasis on models for problem solving.
000426	PBHL 5453	A	Children Hlthcare Needs	HPMT 5109	This class will focus on issues surrounding children with special health care needs and their families. The importance of family-centered care will be emphasized. The use of interdisciplinary and transdisciplinary practice will be discussed as well as the contributions of many different health care disciplines including occupational therapists, physical therapists, speech language pathologists, social workers, dieticians, psychologists, nurses, developmental pediatricians, dentists, and health care administrators. Legislative and policy issues such as Individuals with Disability Act, section 504 of the Rehabilitation Act, Olmstead Decision, and Americans with Disability Act, community-based care will be presented.
000421	PBHL 5483	A	Epi of Infect Disease	EPID 5326	This course will provide an overview of the history, epidemiology, and control of various infectious diseases. A selective overview of immunology and molecular diagnostic methods will be provided as a foundation for later lectures. Major human pathogens will be addressed within the conceptual framework of foodborne, waterborne, and vector-borne diseases, sexually transmitted diseases, respiratory diseases, parasitic diseases, and vaccine preventable diseases. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II; or permission of the instructor.
012733	PBHL 5493	A	Clinical Epi	EPID 5224	This course is designed to introduce students to clinical epidemiology. Topics will include screening, diagnostic clinical research, prognostic clinical research and etiologic clinical research, randomized and non-randomized clinical studies, clinical decision making and meta-analysis. This course also provides examples of how these methods are applied in actual clinical epidemiologic studies, and guidelines for critically evaluating evidence from these studies. Course evaluations will be based on the students' performance in class participation, examinations, written assignments, as well as a written project demonstrating the students' ability to apply these methods.
004685	PBHL 5513	A	Qual Meth Nurs Rsch	EPID 5214	Examines the philosophical foundation for and methodological issues in using qualitative approaches for scientific inquiry and knowledge development. Strategies for enhancing scientific and methodological rigor are explored.
000328	PBHL 5523	A	Qual Data Analysis T&P	EPID 5225	

011425	PBHL 5533	A	HC Quality Mgmt	HPMT 5110	Explores the critical issues and systems for the evaluation and management of quality in health care delivery systems; emphasis is given to the determinants of quality of care in community and institutional settings, clinical quality evaluation, and quality improvement in health care organizations. Among the specific issues covered are quality standards used by regulators and accreditation agencies, methods for performance measurement and outcome research, and quality improvement utilizing total quality management concepts. Prerequisites: PBHL 5003: Introduction to Public Health; PBHL 5123: The Health Care System.
000156	PBHL 5543	A	Adv Cncpt Hum Sex	HBHE 5214	In-depth examination of human sexuality based on the premise that individual sexuality cannot be referenced to just one theory or simply biological, psychological, sociological, or cultural factors but from the complex interactions of these influences; designed to stimulate learners to think critically forming conclusions in light of scientifically gathered data.
010791	PBHL 5553	A	Cancer Epidemiology	EPID 5332	This course is designed to provide an overview of the epidemiology of common cancers as well as methodologic issues in etiologic research and cancer screening. Emphasis will be placed on risk factors that can be modified for cancer control and prevention. The course will address: geographic variation and temporal trends in cancer, cancer burden, biology of normal and cancer cells, biomarkers, selected risk factors (e.g., occupation, tobacco, alcohol, radiation, viruses, immunity, hormones, and genetic factors), and screening objectives, recommendations, and controversies. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II; or permission of the instructor.
012444	PBHL 5563	A	HC Info Sy & Qual for Adm	HPMT 5563	This course first provides a comprehensive overview of the healthcare information systems and capabilities, responsibilities and core competencies of those responsible for such systems. The course also provides a foundation for healthcare quality, patient safety and performance measurements systems used in the U.S. healthcare system. We focus on the importance of patient safety issues, methods, programs and goals and provide an overview of current measurement activities and strategies for measuring and implementing quality improvement initiatives using data driven techniques. The hybrid executive course format includes weekly online readings and discussion threads, as well as four onsite Saturday sessions (4 hours each in duration). We use didactic instructions, case analyses and discussions, project team-based learning, and opportunities to learn via guest lectures from professional working with real-world health information systems and quality management systems.
012376	PBHL 5573	A	Epi Data Management	EPID 5573	This course focuses on developing student skills in data management, including quality control procedures, and basic programming for data management and analysis. Specific skills will include building databases for data entry, preparing database documentation, completing quality control checks, and completing basic programming for analysis for epidemiologic data. The course will focus on programming techniques with limited use of analytical procedures; however, basic programming for common analytic techniques (i.e., ttest, chi square, linear regression, logistic regression, correlation, etc.) will be addressed. Class activities include lecture/discussion and intensive programming work using Excel, Access, and SAS, along with exposure to other software packages (e.g., SPSS, Stata). Prerequisites EPID 5112: Introduction to Epidemiology (Epi 1); BIOS 5013: Introduction to Biostatistics (Biostats 1); EPID 5322: Research Design and Implementation (Epi 2); and BIOS 5212: Advanced Linear Models (Biostats 2); or permission of instructor.
012381	PBHL 5583	A	Advanced HC Mgmt	HPMT 5583	Hospital organization and management; emphasis on administration, medical staff, trustee relationships; provides an understanding of the diversity and complexity of the daily routine of a hospital administrator and clarifies the roles of various constituencies in hospital organizations. Prerequisites: HPMT 5114: Management of Health Care Organizations; or permission of instructor.
000142	PBHL 5623	A	Pgm Plann & Eval	HBHE 5324	This is a course in health promotion program planning. It is designed to help the learner develop the fundamental understanding and skills necessary to implement program planning, implementation, and evaluation irrespective of setting. It provides both theoretical and practical information in program development and community-based participatory research. Prerequisites: HBHE 5104: Introduction to Health Behavior and Health Education; or permission of instructor.
012463	PBHL 5633	A	HC Operations Mgmt I	HPMT 5343	Health care managers face a formidable challenge in meeting the Triple Aim objectives of reducing systems and organizational level costs while simultaneously improving patient's clinical outcomes and experiences with care process. Adding to the complexity of this charge, health care organizations must do this while being "squeezed" by declining reimbursements rates and changing reimbursement mechanisms. In order to effectively "do more with less," managers are embracing operations management techniques developed in other industries and adapting them for use in the service oriented healthcare sector. Performance quality improvement projects, supply chain initiatives, and organizational restructurings are common in today's healthcare environment. This course, Operations Management I, is designed to arm students with the practical and analytical tools required to make effective tactical and operational decisions in a healthcare environment. The course examines operations decisions through a combination of lectures, in-class problems, homework assignments, and readings. Specific topics to be covered include lean techniques for performance improvement, process flow, simulation, techniques for decision-making, forecasting, capacity management, project management, and inventory management. A specific emphasis will be placed on learning and using new tools and technologies to solve analytic problems and then develop solutions to those problems that managerially-understandable and actionable. Prerequisite: HPMT 5333 Advanced Health Systems Financial Management
000147	PBHL 5643	A	Health Prom in Sch Stg	HBHE 5108	The focus of the course centers upon the role the public school can play in improving the health status of children and adolescents. Emphasis is on the development, implementation and evaluation of a coordinated school health program designed to promote the health and well being of students and staff; and, includes an analysis of health services, healthful school environment, and comprehensive health education.
000159	PBHL 5653	A	Theories of HBHE	HBHE 5225	Addresses the social and behavioral foundations of public health; emphasis on social and cultural determinants that shape behavior through complex interaction; presents a socio-ecological framework for understanding the relationship between human populations and health status; locates health problems in the context of multilayered social systems and temporal processes of change. Prerequisites: HBHE 5104: Introduction to Health Behavior and Health Education; or permission of instructor.
000329	PBHL 5673	A	Epi III	EPID 5334	Extends consideration of concepts, methods, and strategies introduced in Epidemiology I and II. The course focuses on tools and skills related to data analysis and interpretation. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II. (EPID XXXX: Data Management and Programming for Epidemiologists or BIOS 5213: Application of Microcomputers to Data Management and Analysis).

011878	PBHL 5683	A	Social Determinants of Hlth	COPH 5346	This course is designed to examine the scientific basis for associations between social factors, both contextual (e.g., poverty, housing, education) and interpersonal (e.g., racism, social support, stigma), and health. In addition, students will be challenged to consider social factors in understanding the epidemiology of diseases, the design and implementation of health protection/promotion programs, and the implementation of health policy. Prerequisites: EPID 5122: Epidemiology I; HBHE 5104: Introduction to Health Behavior and Health Education; or permission of the instructor.
007095	PBHL 5693	A	Nutr Policy & Int Sem	HPMT 5202	This course examines food and nutrition policies and programs and their role in public health. Scientific evidence that informs national dietary guidance, the food system, various policy approaches, food and agricultural policies, legal, political and environmental aspects are reviewed. The course also examines the role of the food industry in shaping the food environment, food availability and consumer behavior.
012651	PBHL 5733	A	Stress & Health	HBHE 5733	Stress is a common experience for many. However, excessive or prolonged activation of stress response systems in the body can produce damaging effects on health across the lifespan. Therefore, is increasingly important for public health practitioners and researchers to address stress in the development of effective health promotion activities. This course will review the literature on the psychosocial and biological components of stress; associations between stress and chronic health conditions; and issues surrounding assessment of stress. Students will apply the literature to the design of health promotion programs that are appropriate for populations experiencing high levels of stress. This course uses traditional approaches to learning (such as assigned readings, analysis, and discussion) combined with personal and group experiential learning.
000418	PBHL 5753	A	Micro Data Mng & Ana	BIOS 5213	Brief overview of software packages commonly used for data management and analysis that include Excel, Access, SPSS and Stata, followed by primary focus on use of SAS software in data management and recoding techniques. These include working with SAS libraries, inputting raw data, reading and writing from external files, using logical structures, using numerical and character functions, working with dates and using arrays. Course focuses on programming techniques with limited use of analytical procedures. Class activities include lecture/discussion and intensive programming work using SAS. Prerequisite: Prior completion or concurrent enrollment in Biostatistics I is recommended.
000419	PBHL 5763	A	Categ Data Analysis	BIOS 5214	This course is designed to give students an overview of statistical methods commonly used for analysis of categorical data. Some of the topics include binomial and Poisson distributions, analysis of 2x2 tables, Fishers exact test, McNemar test, stratified analysis, trend analysis and logistic regression. Class activities include lecture/discussion, group work, analytical assignments and critical literature reviews. Prerequisite: Biostatistics I.
000420	PBHL 5773	A	Survey Resh Methods	HBHE 5325	This course will provide students with a practical overview of survey research methods. The primary focus will be on identifying or developing questionnaire items and scales and designing a survey instrument. The logistics of implementing a survey, tailoring instruments for specific settings, populations, and methods of administration, sampling methods, assessing sampling bias, and maximizing response rates will also be covered.
000422	PBHL 5783	A	Hlth Communication	HBHE 5326	This course provides students with an overview of current theory, practice and research in health communication with an emphasis on designing, implementing and evaluating mass media and community-based communication campaigns. Topics covered include social marketing, media advocacy, and risk communication in addition to traditional social-psychological theoretical approaches to risk reduction and health enhancing communication. Prerequisites: Completion of or concurrently enrolled in HBHE 5104: Introduction to Health Behavior and Health Education; or permission of instructor.
011512	PBHL 5793	A	Analyzing Health Surveys	BIOS 5324	This course will teach students the fundamentals of survey sampling and analysis and introduce them to national health surveys currently used. Students will report on the published analyses results of the "are of interest" national health survey. They will also apply statistical analysis techniques to a project – a class presentation on an existing national survey, and a final analysis project of their choosing (with instructor approval) using a national health survey. Prerequisites: Prior completion of BIOS 5013: Biostatistics I.
012465	PBHL 5833	A	HC Operations Mgmt II	HPMT 5344	This course is designed to provide a comprehensive overview of the concepts and tools used in quality and performance improvement efforts in healthcare organizations. The material covered aims to provide students with the practical and analytical tools required to make effective tactical and operational decisions in a health care environment. The course examines quality management decisions through a combinations of lectures, in-class problems, projects and exams. Specific topics to be covered include Six Sigma, patient safety and satisfaction, quality designations, and quality performance reports. Emphasis is placed on learning using new tools and technologies to solve analytic problems and then articulate solutions to these problems. Prerequisites: HPMT 5343 Operations Management I: Analyzing Performance and Decisions.
010980	PBHL 5843	A	Racial & Ethnic Hlth Disp	HPMT 5426	This course explores racial and ethnic health disparities in the United States. Students will examine the literature on health and health care disparities; the historical and social structural determinants pertinent to the etiology of disparities; the role of genomics; and policy and programmatic strategies for reducing disparities. This course uses traditional approaches to learning (such as assigned readings, analysis, and discussion) combined with personal and group experiential learning. Students will be required to engage in active discussion of readings and to participate in service learning activities which will include preparation, reflection and practice components. Therefore students will spend time in class with instructors, online in group discussions, and as a group in the community with community based partners and instructors.
011718	PBHL 5873	A	Molecular Epi	EPID 5335	The objective of this course is to provide conceptual and practical knowledge of the methods used in molecular epidemiology. Specifically, students will learn about: motivation and strategies for the application of molecular methods in etiologic and translational research; some novel and commonly used laboratory assays; measurement issues for biomarkers; methods used in genetic studies of complex diseases; phenotypic markers of exposure and disease; analytic issues and approaches to high dimensional data; evaluation of biomarkers for clinical use; and ethical issues specific to biospecimen banking and genetic data.
011148	PBHL 5893	A	Injury Epidemiology	EPID 5125	This course is designed to provide an overview of the epidemiology of unintentional and intentional injuries, as well as methodologic issues in etiologic research and injury prevention. Emphasis will be placed on risk factors that can be modified for injury prevention and control. The course is an elective within the Epidemiology track of the MPH program. Prerequisites: PBHL 5173: Epidemiology I; PBHL 5013: Biostatistics I; or permission of the instructor.

012442	PBHL 5913	A	Drugs & Society	HBHE 5320	This course will review the major classes of psychoactive drugs of abuse and misuse and will explore the complex relationships between psychoactive drug use and the social response to such drug use in the United States. Students will gain knowledge about the different types of psychoactive drugs of abuse and misuse in the United States and will develop an understanding of evidence based principles of substance use prevention, treatment and recovery as well as theories and principles related to reducing drug related harms, both individual and societal.
000332	PBHL 5983	A	Preceptorship in PH	COPH 5989	The Preceptorship is a field experience, requiring a minimum of 200 clock hours of work in a public-health related activity, under the joint supervision of a qualified specialist working in a selected area of public health and a COPH faculty advisor. A written report specifying activities, products, and outcomes of the experience is required upon completion of the Preceptorship. The project must be undertaken during the semester registered for Preceptorship. Prerequisites: HPMT 5003 Introduction to Public Health, BIOS 5013 Biostatistics I, HPMT 5103 The Health Care System, HBHE 5104 Introduction to Health Behavior and Health Education, EPID 5112 Epidemiology I, ENVH 5102 Environmental and Occupational Health; a minimum of nine hours of specialty concentration courses; other requirements as listed in the Preceptorship Manual.
011713	PBHL 5991	A	Culminating Exp Seminar	COPH 5991	The Culminating Experience Seminar (or proof of passing the CPH exam) is required of all students to complete the MPH program. The Seminar must be taken in the same semester in which the student initiates the Culminating Experience (CE) Project (PBHL 5992). The Seminar is designed to provide information and support to students who are completing their CE Projects, and to provide a forum in which students will provide their Project findings in a public forum. The Seminar will provide students with an opportunity to learn about other students' Projects and activities, to share ideas with students and faculty about resources that can support their respective Projects, to increase their knowledge of current issues facing public health professionals, and to gain experience in professional presentation skills. Prerequisites: Enrollment in this course is open to all MPH degree-seeking students in the UAMS COPH who are completing their CE Project and have submitted an approved CE Project plan to the COPH Public Health Practice Coordinator; other requirements as listed in the Culminating Experience Manual.
011712	PBHL 5992	A	Culminating Exp Project	COPH 5992	The Culminating Experience Project requires the student to synthesize and integrate knowledge and apply theory and principles learned to an area of public health practice resulting in preparation of a manuscript for publication, a health policy proposal, a research proposal for submission, or equivalent, as approved by the Culminating Experience Project Advisory Committee (CEPAC) composed of COPH Faculty members. Department consent required.
011714	PBHL 6023	A	Climate Change	ENVH 5303	Climate change is an exceptional global environmental crisis primarily driven by anthropogenic activities with adverse consequences on ecological and life systems. This course will provide students an overview of the driving forces and mechanics of climate change and comprehensive analysis of the implications on Earth's natural/human ecosystems and health in a local, regional, and global scale. The concepts, approaches and uncertainties of methods applied to assess and monitor the health impacts of climate change will be presented and specific disease cases will be discussed. Lastly, ongoing efforts to cope/adapt, mitigate or reduce the impacts and the mechanisms to develop these tools will be examined.
012441	PBHL 6123	A	Air Pollution	ENVH 5123	There has been a significant wealth of research and findings on the adverse health effects of air pollution following the 1952 severe London episode, resulting in the most detailed, consistent and comprehensive regulatory framework to control emissions and ambient air levels of atmospheric pollutants in order to reduce the overall burden to public health. This course will (1) introduce the students on the basic concepts of air pollution sources and atmospheric fate; (2) describe the anticipated health effects and their biology; (3) demonstrate the use of an arsenal of statistical and risk methods for assessing air pollution health effects; and (4) illustrate the regulatory framework on the sources and ambient levels of air pollution on national and international levels.
012446	PBHL 9001	A	Instructional Meth & Tech Prac	EPID 6001	This course provides doctoral level (PhD and DrPH) students with training and practice in the methods and principles of teaching. This course is one credit hour and has two components which must be completed to earn the credit: 1) a weekly seminar course, and 2) lectures in three separate courses taught within the COPH MPH program.
007091	PBHL 9003	A	Biostats II	BIOS 6212	Multiple regression and linear models for analysis of variance. Experimental Designs with factorial arrangement of treatments, repeated measures, and multiple covariates. Introduction to logistic and non-linear regression. Prerequisite: BIOS 5013.
012432	PBHL 9011	A	Math & Stat Primer	HPMT 6011	This course will provide a review of fundamental mathematical and statistical concepts used in health systems research including linear and matrix algebra, nonlinear functions, derivatives, and probability theory. The course will require completion of a series of problem sets containing mathematical and statistical exercises, and final examination. Prerequisites: doctoral student standing.
007092	PBHL 9013	A	Epi II	EPID 6322	This is an intermediate level course in epidemiologic theory and methodology that prepares students who have completed the basics of Epidemiology to the study of advanced methods. Epidemiology II builds on the concepts, methods, and strategies introduced in Epidemiology I. The course focuses on methodologic tools and skills needed to conduct or evaluate epidemiologic research; emphasizes on tools and skills to assess study designs, data collection, threats to study validity and reliability, biases e.g. confounding and heterogeneity of effects. Prerequisites: EPID 5112: Epidemiology I, EPID 5110: Epidemiology I Lab, BIOS 5013: Biostatistics I.
011885	PBHL 9021	A	Fundamentals of Research	COPH 6438	
000438	PBHL 9023	A	Adv Hlth Beh Theo	HBHE 6021	This course will review the major theories of behavior change and explore the complex relationships between socio-demographic factors and theory constructs. Students will gain substantial experience in designing behavioral theory-based public health interventions. Prerequisites: HBHE 5104: Introduction to Health Behavior and Health Education or its equivalent; Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; or permission of instructor.

000437	PBHL 9033	A	Adv Hlth Policy & Mngmt	HPMT 6114	This course provides an advanced examination of issues related to the development, implementation, and impact of public policies and health system management strategies on population health. It will include an in- depth exploration of: theories of policy development applied to health issues, including the competing influences of political, economic, and socio-cultural forces; strategies for agenda-setting and policy formation in the health arena; policy implementation and management approaches; policy analysis methods and tools; and policy and managerial decision-making strategies in health, including values-based and evidence-based perspectives; case studies of policy and managerial decisions made at national, state, and community levels will provide opportunities for in-depth discussion and analysis Prerequisites: Course for doctoral students or by permission of instructor. Students should be familiar with major public health concepts and practices, the organization and financing of the US health care system, major political institutions and processes in the US, and basic principles of statistics and probability.
011779	PBHL 9042	A	Surveillance	EPID 6121	Surveillance is a methods course focused on the principles and methods employed in the surveillance of diseases, conditions, and events of public health concern. Students will learn about: the selection of diseases, conditions, and events for surveillance; the design of effective surveillance programs in routine and emergency situations; the operation of effective and efficient surveillance programs in a state health department, hospital, corporate, and other settings; the evaluation of surveillance programs; and the use of surveillance data for the purpose of epidemiologic research and practice.
004696	PBHL 9043	INV	EOH Policy	ENVH 6043	This course is designed to stimulate critical thinking about environmental and occupational health risk management, including policy effectiveness, efficiency, and fairness. Alternatives to traditional means of regulating environmental hazards will be explored, along with issues regarding environmental justice and ethics and the role of participation by affected groups. Prerequisites: PBHL 5113 or OEHM 5023 or equivalent and consent of course director.
009820	PBHL 9053	A	Categorical Data Analysis	BIOS 6214	This course is designed to give students an overview of statistical methods commonly used for analysis of categorical data. Some of the topics include binomial and Poisson distributions, analysis of 2x2 tables, Fishers exact test, McNemar test, stratified analysis, trend analysis and logistic regression. Class activities include lecture/discussion, group work, analytical assignments and critical literature reviews. Prerequisite: Biostatistics I.
011603	PBHL 9063	A	Epi III	EPID 6334	Extends consideration of concepts, methods, and strategies introduced in Epidemiology I and II. The course focuses on tools and skills related to data analysis and interpretation. Prerequisites: EPID 5112: Epidemiology I and EPID 5322: Epidemiology II; BIOS 5013: Biostatistics I and BIOS 5212: Biostatistics II. (EPID XXXX: Data Management and Programming for Epidemiologists or BIOS 5213: Application of Microcomputers to Data Management and Analysis).
010929	PBHL 9073	A	Behavioral Research	HBHE 6212	This course addresses behavioral research: the role of theory, problem definition, and hypothesis generation; research design; measurement of health behaviors; and critical review and interpretation of published research. Prerequisites: Doctoral student standing in the UAMS College of Public Health, and completion of HBHE 6021, or by permission of instructor.
012378	PBHL 9103	A	Comm Based Program Design	COPH 6303	This course will use an interdisciplinary approach to public health program design, incorporating the community-based participatory model. Students will gain experience in examining background epidemiological data in order to design an appropriately targeted intervention for a population. Survey, qualitative, and qualitative designs will be explored. Prerequisite: Doctoral student standing and successful completion of three public health sciences core courses, or permission of instructor.
012628	PBHL 9111	A	PH Res & Practice	COPH 6011	This course provides an introduction to issues addressed by core disciplines representing the full breadth of public health. Students will attend 15 one-hour presentations scheduled at the College of Public Health and at the Arkansas Department of Health. Prerequisite: Doctoral student standing
012377	PBHL 9113	A	Community Based Prog Eval	COPH 6403	Evaluation frameworks, needs assessments, and logic models will be studied with a particular emphasis on evaluating community-based programs. Performance evaluation as well as formative, process, impact, and outcome evaluation purposes and techniques will be compared. Theoretical and pragmatic approaches to the design and implementation of evaluation protocols will be explored, along with the role of both quantitative and qualitative methods. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of COPH 6303:Community-Based Public Health Program Design; successful completion of COPH 6438: Fundamentals of Research; HBHE 6021: Advanced Health Behavior Theory or equivalent; and either HBHE 6212: Applied Behavioral Research Methods or HPMT 6313:Health Services Research Methods or equivalent; or permission of instructor.
012629	PBHL 9121	A	PH Res & Practice II	COPH 6121	This course provides an introduction to issues addressed by core disciplines representing the full breadth of public health. Students will attend 15 one-hour presentations scheduled at the College of Public Health and at the Arkansas Department of Health. Prerequisite: Doctoral student standing
007093	PBHL 9123	A	Grants & the Peer Rev	COPH 6437	This course provides information and cultivates skills required to develop grant applications supporting health programs and prevention research. Relevant topics include: funding agencies and mechanisms; justifying proposals; rigorous assessment and intervention methods; and working on a research team. Students will gain experience in writing funding proposals and creating program budgets. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; and HPMT 6313:Health Services Research Methods; or permission of instructor.
012630	PBHL 9131	A	PH Res & Practice III	COPH 6131	This course provides an introduction to issues addressed by core disciplines representing the full breadth of public health. Students will attend 15 one-hour presentations scheduled at the College of Public Health and at the Arkansas Department of Health. Prerequisite: Doctoral student standing
011589	PBHL 9133	A	Biostats III	BIOS 6223	This course is designed to give students an overview of applied multivariate analysis. Some of the topics include principal component analysis, exploratory/confirmatory factor analysis, path analysis, structural equation model, discriminant analysis and classification, clustering methods and algorithms, Hotelling's T-square, and MANOVA. Prerequisite: Biostatistics II
011668	PBHL 9142	A	Adv Epi Methods Lab	EPID 6423	This is an advanced, doctoral level laboratory-based course for students who require extensive preparation in epidemiologic theory and methodology. This course is designed to integrate and apply the methods introduced in Epidemiology III, Epidemiology III Lab, and Advanced Epidemiology Methods I, along with new methods, in order to prepare students to apply these methods as independent researchers in epidemiology.
011669	PBHL 9143	A	Advanced Epi Methods	EPID 6424	This is an advanced, doctoral level course for students who require extensive preparation in epidemiologic theory and methodology. Topics covered include causal inference; study design; the analysis of crude, stratified, and matched data; approaches to assessing effect modification and adjusting for confounding; modeling data; bias and the critical evaluation of epidemiological studies.
012375	PBHL 9153	A	Climate Change	ENVH 6303	

011673	PBHL 9163	A	Genetic Epi	EPID 6324	The course covers statistical models and methods that are used to understand human genetics and genomics; specifically how genetic information can be incorporated into statistical models to discover disease genes. Topics include basic molecular and population genetics, marker selection algorithms, multiple comparison issues, population stratification, genome-wide association studies, genotype imputation, analysis of microarray data (gene expression, methylation data, eQTL mapping), and next-generation sequencing data analysis. The focus is modern approaches to association analysis. Many examples are used to illustrate key points. The course is intended for biostatisticians, epidemiologists and quantitatively-oriented geneticists and health scientists wanting to learn about statistical methods for genetic and genome analysis, whether to better analyze genes-related data, or to pursue research in methodology. An intermediate background in statistical methods is required (Biostat II). No background in genetics is assumed.
012429	PBHL 9203	A	Variation in HS Perf	HPMT 6213	At its core, the field of health services research is devoted to the study of variation in health system performance and health care practice. This course will focus on what can be learned from studies of variation in health systems and services - investigating the causes, consequences, and solutions to harmful, wasteful, and inequitable variation. In doing so, this course will review conceptual foundations of health services and systems research (HSR), and examine current topics and ongoing research in this field. Students will examine current empirical research conducted by investigators concerning the development, organization, financing, and delivery of health services and their impact on population health. Students will also gain experience in conceptualizing research questions of interest in HSR, developing theoretical frameworks to inform these questions, and critically reviewing the empirical literature on topics of interest.
012428	PBHL 9213	A	Health Sys Theory & Resh	HPMT 6103	This course will review conceptual foundations of health services and systems research (HSR), and examine current topics and ongoing research in this field. Students will examine current empirical research conducted by local investigators concerning the development, organization, financing, and delivery of health services and their impact on population health. Students will also gain experience in conceptualizing research questions of interest in HSR, developing theoretical frameworks to inform these questions, and critically reviewing the empirical literature on topics of interest.
012439	PBHL 9243	A	Pharm Econ & Policy	HPMT 6243	This course is designed to provide an understanding of pharmaceutical products markets and institutions in the United States from an economic perspective. Tools of economic analysis are introduced that are relevant to understanding the topics of interest. A primary focus of the course is to bring economic perspectives to bear on the debate over issues in pharmaceutical industry and policy. The course will use basic principles of economics to analyze the nature of demand for and supply of pharmaceutical products, innovation and market structure of the pharmaceutical industry. The course will further discuss issues related to distribution channels, benefit design and reimbursement mechanisms.
010984	PBHL 9253	A	Faith-Based Hlth Prom	HBHE 6234	This course will review the literature on religion and health, and faith-based health promotion. Students will explore the complex relationships between religion and health, and apply the literature on religion and health into the design of faith-based public health interventions. Students will gain experience in building upon the current religion and health literature, and in the design of public health interventions that are appropriate for a faith-based setting. Prerequisites: For MPH Students: You must have successfully completed PBHL 5003, PBHL 5133, PBHL 5623, and PBHL 5653, and receive the instructor's permission to enroll in this course. For DrPH Students: You must have doctoral student standing in the DrPH program in Public Health Leadership, and have successfully completed at least one graduate-level course in health behavior or health education to enroll in this course. For PhD Students: You must have doctoral student standing in the PhD Program in Health Promotion and Prevention Research, and have successfully completed at least one graduate-level course in health behavior or health education to enroll in this course.
012440	PBHL 9263	A	Patient-Reported Outcomes	HPMT 6263	
012652	PBHL 9273	A	Stress and Health	HBHE 6733	Stress is a common experience for many. However, excessive or prolonged activation of stress response systems in the body can produce damaging effects on health across the lifespan. Therefore, is increasingly important for public health practitioners and researchers to address stress in the development of effective health promotion activities. This course will review the literature on the psychosocial and biological components of stress; associations between stress and chronic health conditions; and issues surrounding assessment of stress. Students will apply the literature to the design of health promotion programs that are appropriate for populations experiencing high levels of stress. This course uses traditional approaches to learning (such as assigned readings, analysis, and discussion) combined with personal and group experiential learning.
007224	PBHL 9303	A	Adv Org Beh & Ldship	HPMT 6003	This primary goal of this graduate course is to explore the scientific study of the components of organizational behavior and leadership that help administrators of health systems maximize the performance of personnel in their organization. The framework of the course will examine the three core elements of organizational behavior including individual, group and organizational components. It will examine the common research methods in organizational behavior and current research findings. It will also explore leadership theories, research and current approaches to leadership development that can be applied to health care systems. The course is organized as a seminar and the students are expected to develop an ability to actively critique peer-reviewed scientific research.
007225	PBHL 9313	A	Communication for PH Lder	HBHE 6436	Theoretical overview of organizational communication; includes communication flow, networks, organizational relationships, groups, conflict, language. Special topics may include teams in organizations, diversity, organizational politics, leadership, and change. The focus is on applying organizational communication theories and concepts to understand others better and to control one's own communication in organizations.
009814	PBHL 9333	A	Mgmt Skill Development	HPMT 6435	This course is designed to introduce students to human resource management, information management and financial management concepts and skills needed by executives in public health organizations. Students will apply these skills in a variety of in-class activities and have the opportunity to learn from practicing executives. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of the public health sciences core courses; or permission of instructor.
009815	PBHL 9373	A	Eff Crisis Communication	HBHE 6373	Issues such as terrorism, public health crises, and corporate malfeasance have increased the importance of crisis communication. This course will: facilitate understanding of the critical role of communication on the onset and recovery of crisis; enhance the student's effective crisis communication skills; promote understanding of the counter intuitive nature of crisis communication; utilize crisis communication theory and perspectives to argue for effectiveness and ineffectiveness in crisis communication; and assist interactions between students, researchers, and policy makers on effective crisis communication. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of three public health sciences core courses; or permission of instructor.

007094	PBHL 9383	A	Hlth Comm	HBHE 6326	This course provides students with an overview of current theory, practice and research in health communication with an emphasis on designing, implementing and evaluating mass media and community-based communication campaigns. Topics covered include social marketing, media advocacy, and risk communication in addition to traditional social-psychological theoretical approaches to risk reduction and health enhancing communication. Prerequisites: Completion of or concurrently enrolled in HBHE 5104: Introduction to Health Behavior and Health Education; or permission of instructor.
012648	PBHL 9403	A	Applied Rsh Meths	HPMT 6303	This course will outfit students with the skills necessary to analyze and conduct studies using retrospective health care data with a focus on large administrative claims data such as Medicaid and private payer insurance claims. Students will use SAS to analyze actual health care data. Instruction on study design, statistical techniques, and data integrity issues specific to observational studies using these data sources will be offered.
012433	PBHL 9413	A	Advanced Econ Meth	HPMT 6323	Examines advanced econometric methods used in health systems research, including instrumental variables analysis, propensity score methods, longitudinal and panel data analysis methods, and duration models.
011422	PBHL 9423	A	Public Hlth P: Adv Crpts	EPID 6401	This course is designed to introduce students to an integration of public health science, leadership principles, policy skills and government agency operation into a course that emphasizes practical application in the public health practice setting.
004726	PBHL 9443	A	Public Hlth Law & Ethics	HPMT 6203	Introduction to the legal and ethical issues encountered in health policy and management. Course content includes: constitutional authority and limits on governmental intervention in public health (i.e., individual rights vs. society's rights); the functions of and interaction between courts, legislatures, regulators; the role of the courts in health policy and health care delivery; how to recognize legal issues and communicate with attorneys; how law will affect students as strategic thinkers in health care positions; how to apply basic tort and contract principles; and the process of public health regulation and potential legal barriers to public health strategies. Specific legal topics will vary, but will usually include: the nature and scope of public health authority; constitutional constraints on public health initiatives; liability; fraud and abuse; privacy and confidentiality; regulatory oversight of the health care system; legal requirements for access to health care; nondiscrimination; conflicts of interest; and a review of ethical and moral issues commonly faced in health care management. Prerequisites: HPMT 5003: Introduction to Public Health; HPMT 5103: The Health Care System.
012369	PBHL 9463	A	Management of HC Org	HPMT 6112	
012646	PBHL 9473	A	Adv Methods in HS Rsch	HPMT 6313	This course provides an overview of study design and methods for health services research (HSR) applied to health policy and public health problems. It will include exploration of: (1) study design principles with emphasis on the non-experimental and quasi-experimental designs most often employed in health policy and services research; (2) methodological problems often encountered in applied health policy and services research; (3) the "toolbox" of quantitative methods most often used in health policy and services research; and (4) principles and strategies for interpreting study results and communicating them to diverse stakeholders in public health. The course will emphasize hands-on exercises in using HSR methods and case studies of published HSR studies, with a focus on health policy and public health topics. The course will focus on quantitative research methods grounded primarily in the disciplines of econometrics and statistics, while highlighting the many close connections to other methodological perspectives including epidemiology, sociology, demography, and political science. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; successful completion of three public health sciences core courses; or permission of instructor.
011633	PBHL 9493	A	Clinical Epi	EPID 6224	This course is designed to introduce students to clinical epidemiology. Topics will include screening, diagnostic clinical research, prognostic clinical research and etiologic clinical research, randomized and non-randomized clinical studies, clinical decision making and meta-analysis. This course also provides examples of how these methods are applied in actual clinical epidemiologic studies, and guidelines for critically evaluating evidence from these studies. Course evaluations will be based on the students' performance in class participation, examinations, written assignments, as well as a written project demonstrating the students' ability to apply these methods.
012701	PBHL 9503	INV	Grantsmanship Peer Rev	COPH 6437	This course provides information and cultivates skills required to develop grant applications supporting health programs and prevention research. Relevant topics include: funding agencies and mechanisms; justifying proposals; rigorous assessment and intervention methods; and working on a research team. Students will gain experience in writing funding proposals and creating program budgets. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; and HPMT 6313: Health Services Research Methods; or permission of instructor.
011602	PBHL 9523	A	Qual Data Analysis T&P	EPID 6225	
012649	PBHL 9573	A	Pharmacoepidemiology	EPID 6109	Pharmacoepidemiology is the study of the use of and the effects of medications in large numbers of people. This specialty combines information from clinical pharmacology (the study of effects of drugs in humans) and epidemiology (the use and effects of exposure in populations) to form a unique area of study. Scientists that are interested in the patterns medications are used and their effects, whether beneficial or harmful, incorporate pharmacoepidemiology theory and applications into their studies. This specialty is useful in understanding published literature that involves medication use and can be applied to varied research roles including those within academia, pharmaceutical industry and government affairs. This course is designed to teach graduate students the application of general epidemiological principles to topics concerning pharmaceuticals.
011726	PBHL 9583	A	Public Health Preparednes	EPID 6227	Public Health Preparedness and Emergency Response is an elective course within the Department of Epidemiology. It is designed to provide an overview of how public health interfaces with all hazards including bioterrorism, chemical and radiological emergencies, as well as natural hazards and disasters. Organizational needs will be addressed in order to prepare for and respond to these events. Specific competency-based education will be addressed in the areas such as bioterrorism agents, emergency response capabilities, crisis communication during disasters, and development of plans and responses for humanitarian emergencies. The course will involve practical sessions at the Arkansas Department of Health.
011533	PBHL 9601	A	Directed Study	COPH 6100	
011699	PBHL 9602	INV	Directed Study	COPH 6100	
012431	PBHL 9613	A	Adv Meth for Qual & Hlth	HPMT 6315	Examines conceptual models, methods, and dimensions of quality of care (QOC) research. Students will analyze the history and rationale of QOC assessment and methodological issues in measuring QOC in research. Prerequisites: Doctoral student status or permission of the instructor, HPMT 6003 and HPMT 6014.

012694	PBHL 9623	A	Per Measure, Rpt Incent	HPMT 6317	This course will examine the theoretical constructs and empirical methods currently used to assess, profile and compare the performance of health professionals, health care institutions and health systems. We will examine the advantages and disadvantages of alternative measurement approaches in the context of alternative purposes of measurement, including: quality improvement; regulation and accreditation; payment; consumer education and empowerment; and research and evaluation. The course will examine a number of case studies based on contemporary developments in this field, including the National Quality Forum measurement process, Medicare's quality reporting initiatives, and private sector pay-for-performance programs. The course will also examine approaches for studying the impact of performance measurement, reporting and incentive programs. Pre-requisites: HSRE 9601 and HSRE 9301
012782	PBHL 9634	A	Teaching the Adult Learner	HBHE 6437	This course is designed to provide practical application of adult learning theory and course design to graduate students. The objective of this course is to position graduate students to take on teaching responsibilities before or after graduation.
012434	PBHL 9653	A	Impl Res in Clin Prac	HPMT 6319	Examines the theoretical frameworks relevant for studying diffusion of innovations and implementation of change in clinical practice settings, assesses the empirical evidence on strategies for adopting and implementing change, and considers methods for evaluating change processes.
012462	PBHL 9683	A	Social Determinants	COPH 6346	This course is designed to examine the scientific basis for associations between social factors, both contextual (e.g., poverty, housing, education) and interpersonal (e.g., racism, social support, stigma), and health. In addition, students will be challenged to consider social factors in understanding the epidemiology of diseases, the design and implementation of health protection/promotion programs, and the implementation of health policy. Prerequisites: EPID 5122: Epidemiology I; HBHE 5104: Introduction to Health Behavior and Health Education; or permission of the instructor.
012430	PBHL 9703	A	Health Care & Org Theory	HPMT 6328	This graduate course will explore the scientific study of the components of organizational Theory and research particularly as it relates to healthcare. A useful way to understand organizational theory is the definition offered by Martin Kilduff: Organization theory is a set of approaches to the understanding of how organizations form, survive and grow, interact with each other, recruit and process members, gain and manage resources, and deal with problems both internal and external. Organizational theory is one of the most interesting areas in social science research as we move towards a system-based approach. In each class session, we will examine both important historical contributions and more recent treatments of the topic for the day. Each session may contain both theoretical and empirical contributions. While sessions may differ somewhat in their execution, each session will generally begin with a more general discussion of the components and boundaries of the week's topic. This discussion will be followed by a more in-depth exploration of the articles assigned for the week, where we will explore not just what has been said but also how these theories have been tested.
012457	PBHL 9711	A	Current Issues in PH	COPH 6500	This seminar is designed to provide students with an opportunity to consider the leadership challenges faced in public health organizations today, including but not limited to prevention and control of obesity and tobacco use, emergency preparedness, the changing health care environment, and other key issues of importance.
012437	PBHL 9723	A	Advanced Hlth Econ I	HPMT 6320	Examines theory and advanced methods for modeling the demand for health, health care, health insurance, and public health activities.
012438	PBHL 9733	A	Adv Hlth Econ II: Supply	HPMT 6321	
012647	PBHL 9743	A	Pharmacoecon & HC Tech	HPMT 6326	The purpose of this course is to provide students with the skills to design, conduct, analyze and rate investigations that assess the value or outcomes of health care technologies with a focus on pharmacy related products and services. The course will also integrate the theoretical prefaces to health care technology as well as provide real world applications using decision modeling software to conduct cost effectiveness and other related studies.
011601	PBHL 9773	A	Survey Resch Methods	HBHE 6325	This course will provide students with a practical overview of survey research methods. The primary focus will be on identifying or developing questionnaire items and scales and designing a survey instrument. The logistics of implementing a survey, tailoring instruments for specific settings, populations, and methods of administration, sampling methods, assessing sampling bias, and maximizing response rates will also be covered.
011605	PBHL 9803	INV	Directed Study - P Hth Ld	COPH 6800	Provides an opportunity for students to engage in the detailed study of a public health leadership topic/experience that is relevant to their program of study, with the guidance of a faculty supervisor; a completed and signed directed study contract is required at the time of registration; requires prior approval of faculty advisor, course instructor, and the DrPH Faculty Leadership Chair. Prerequisites: Doctoral student standing in the UAMS Fay W. Boozman College of Public Health; completion of public health science core courses; or permission of instructor.
012549	PBHL 9831	A	Epi Seminar Series	EPID 6102	In-depth study of current topics in epidemiology or advanced study of specialized topics not covered in other courses. Instructional techniques may include directed reading, group discussion, lectures, and/or web-based instruction, and/or student presentations. Prerequisites: Enrollment as a doctoral student in the PhD program in Epidemiology.
011536	PBHL 9843	A	Racial & Ethnic Hlth Disp	HPMT 6426	This course explores racial and ethnic health disparities in the United States. Students will examine the literature on health and health care disparities; the historical and social structural determinants pertinent to the etiology of disparities; the role of genomics; and policy and programmatic strategies for reducing disparities. This course uses traditional approaches to learning (such as assigned readings, analysis, and discussion) combined with personal and group experiential learning. Students will be required to engage in active discussion of readings and to participate in service learning activities which will include preparation, reflection and practice components. Therefore students will spend time in class with instructors, online in group discussions, and as a group in the community with community based partners and instructors.
011532	PBHL 9862	A	Epi I Lab: App of Epi Tech	EPID 6110	
012445	PBHL 9863	A	Molecular Epi	EPID 6335	The objective of this course is to provide conceptual and practical knowledge of the methods used in molecular epidemiology. Specifically, students will learn about: motivation and strategies for the application of molecular methods in etiologic and translational research; some novel and commonly used laboratory assays; measurement issues for biomarkers; methods used in genetic studies of complex diseases; phenotypic markers of exposure and disease; analytic issues and approaches to high dimensional data; evaluation of biomarkers for clinical use; and ethical issues specific to biospecimen banking and genetic data.

011757	PBHL 9873	A	Dsgn & Analy of Cohort Studies	EPID 6336	This course is on designs and analyses used for cohort studies and their derivatives (nested case-control studies and case-cohort studies). The first part of the course covers designs for cohort studies. Various designs will be demonstrated through examples from the literature, and issues in carrying them out will be discussed including strengths and limitations. The second part covers analyses of cohort studies, beginning with simple designs and progressing to more complex designs. The course is a mix of theory to motivate methods and hands-on application of methods to gain familiarity with the interpretation and presentation of results. SAS procedures are used for analyses of grouped data (Poisson regression using GENMOD), analyses of time-to-event data (proportional hazards regression using LIFETEST & PHREG), and analyses of repeated measures (GLM & MIXED). The course will be supplemented with exercises that give the students experience in study design and statistical analysis.
011675	PBHL 9883	A	Basic Lab Methods	EPID 6101	Students in the MPH program often come from many different backgrounds and some have little background or understanding of laboratory science and its integral part of the health care system. This course will include a brief introduction to the laboratory profession, scope of practice, state/federal laws and regulations, code of ethics and various types of lab tests (hematology, clinical chemistry, microbiology, immunology, serology, and molecular diagnostics). Students will acquire knowledge of commonly used laboratory techniques and an understanding of the testing procedures being carried out. They will also learn how tests can be affected by specimen collection and handling as well as issues related to strengths and limitations of the different testing procedures. Upon completion, students will be more familiar with general laboratory practice, and tests used in epidemiologic studies.
012443	PBHL 9913	A	Drugs & Society	HBHE 6320	This course will review the major classes of psychoactive drugs of abuse and misuse and will explore the complex relationships between psychoactive drug use and the social response to such drug use in the United States. Students will gain knowledge about the different types of psychoactive drugs of abuse and misuse in the United States and will develop an understanding of evidence based principles of substance use prevention, treatment and recovery as well as theories and principles related to reducing drug related harms, both individual and societal.
011606	PBHL 9971	INV	Doctoral Practicum	COPH 6989	The Doctoral Practicum consists 270 hours of field experience under the joint direction of a COPH faculty member and a practicing professional with leadership experience in a public health institution. A written report specifying activities, potential products and outcomes of the experience is required upon completion of the practicum.
012379	PBHL 9981	A	Doctoral Seminar	COPH 6900	This seminar will support DrPH students as they prepare for, plan, and work on their doctoral projects, including discussions on selecting and refining capstone topics, working effectively with site and faculty advisors, faculty advisory committees, managing project activities and the writing phase, and other topics as identified by participating students. Each student will be expected to facilitate one session during the semester about his or her practicum or dissertation project.
011305	PBHL 9991	INV	DrPH Disseration Project	COPH 6999	The DrPH Doctoral Dissertation Project is a culminating experience that requires the student to synthesize and integrate knowledge by applying learned theories and principles to an area of public health relevant to the health needs of Arkansans. A written product must be submitted and must take the form of a dissertation, "n" manuscript(s) that is/are suitable for publication in a national-level public health journal(s), a technical report with supplemental materials if applicable accompanied by a grant proposal, case study(ies) from initiation to completion/ethnography and/or other similar scholarly document approved by the student's dissertation committee. The written product must be presented and successfully defended. Prerequisites: PBHL 997V: Doctoral Practicum; PBHL 9981: Doctoral Projects Seminar and permission of the Dissertation Committee.
010410	PCOL 501V	A	Rsch Pcol & Toxicology	PCOL 5103	Students will participate in research projects under the supervision of a faculty member.
010423	PCOL 700V	A	Doctoral Dissertation	PCOL 5123	Prerequisite: candidacy and consent
010412	PCOL 5033	A	Prin & Mthds Pcol & Tox	PCOL 5105	This course offers an overview of the principles and general mechanisms underlying the effects of drugs and chemicals on biological systems. The application of these principles to proper experimental design is also considered.
010414	PCOL 5043	A	Grad Pharm & Therapeutics	PCOL 5107	A survey pharmacology course that covers most major drug classes approved for clinical use and drugs in current clinical trials. Lectures will be directed toward mechanism of action and metabolism of the agents, and in addition to learning which drugs are used to treat a particular disease or illness; an emphasis will be placed on how drugs act within the known pathophysiological framework of various disease states. A focus in this course will be on the usefulness of these drugs in basic research studies.
012771	PCOL 5143	A	Exp. Design & Analysis	PCOL 5143	The course will provide graduate students in the basic sciences with the fundamentals of designing experiments, understanding different types of data and the proper methods for analyzing the data to obtain scientifically meaningful results. The course will combine didactic lectures with real problem sets from biomedical research at UAMS.
011118	PCOL 5201	A	Pharm Journal Club	PCOL 5115	Students will read recent, high profile contributions to the Pharmacology/Toxicology literature, present a summary of the paper, critique the methodology and data interpretation, and encourage discussion among the class/attendees. All enrolled students must present a paper. First year students are required to attend, but they are not required to present a paper.
011121	PCOL 5211	A	Sci Comm Eth I	PCOL 5117	This course will provide formal training in scientific communication and ethics to students in the first and second years of graduate school. Various faculty within and outside the department will lead discussion concerning how to write and publish scientific studies and ethical conduct related to science. Students will also prepare an oral presentation of recent peer reviewed research.
011122	PCOL 5221	A	Sci Comm Eth II	PCOL 5119	This course will provide additional formal training in scientific communications and ethics. Prerequisite: PCOL 5117
011123	PCOL 5231	A	Sci Comm Eth III	PCOL 5120	This course will provide additional formal training in scientific communications and ethics. Prerequisite: PCOL 5119
011124	PCOL 5241	A	Sci Comm Eth IV	PCOL 5121	This course will provide additional formal training in scientific communications and ethics. Prerequisite: PCOL 5120
011764	PCOL 6203	A	Systems Therapeutics	PCOL 6101	This is a survey course covering selected topics in systems pharmacology and toxicology, a field of study that considers the broad view of drug action on the entire organism. Material will be presented in formal lectures and student presentations. Pre-requisites: PHYO 5103 or equivalent or consent of course director.
011652	PHPR 3402	A	Pharm Calculations	PHPR 7101	This course is a study of the system of weights, measures and mathematical expertise requisite to the compounding, dispensing, and utilization of drugs. Typical situational problems are used for practice in the application of this knowledge to prescription and medication procedures. Lecture two hours per week.

011042	PHPR 3412	A	US Hlth Care System	PHPR 7102	The objective of this course is to equip pharmacy students with a knowledge base in the areas of pharmacy marketing and health economics which will permit them to make good management decisions when providing pharmaceutical products and services for patients and other consumers. Lecture two hours per week.
011240	PHPR 3422	A	Career Orient & Commun	PHPR 7103	A course to acquaint the beginning pharmacy student with the multiple aspects of the profession of pharmacy, including discussions of the different environments of pharmacy practice and the inter- and intra-professional relationships of health care providers. The course will have a focused area of study around professional communications. Lecture two hours per week.
010860	PHPR 3511	A	Nuclear Pharmacy	PHPR 7104	This course is an introduction to the basic aspects of nuclear pharmacy. Topics include the characterization, properties and detection of radioactivity, radiation biology, radiation protection elements of nuclear medicine and radiopharmaceuticals. Lecture one hour per week.
011150	PHPR 3603	A	Commun Intro PhPr Exper	PHPR 7105	This course is will provide structured practical experience in community pharmacy practice. Students are assigned a 2 ½ week experience at the end of the P1 Spring semester in May or June. Through utilization of competency-based objectives, students gain a greater appreciation for the profession of pharmacy and develop professional attitudes, judgment and technical skills needed to function in the community setting. Students observe/discuss the role of the community pharmacist and actively participate in daily operations that focus on the distributive aspects of practice. To enter this course, a student must be eligible for advancement to the P2 year. This is a three credit hour, pass/fail, course.
012412	PHPR 3611	A	Intro Pt-Centered Comm	PHPR 7106	This P1 course will focus on patient-centered communication. It is heavily grounded in evidence-based motivational interviewing principles to encourage treatment adherence in a health care setting. This is a one credit hour course.
011046	PHPR 3612	A	Drug Information	PHPR 7107	This course will introduce the top 200 drugs available in the U.S. and to the drug and medical literature that is available at UAMS. The instructors will emphasize how to locate, evaluate and communicate medical and drug information. The course will involve didactic lectures and assignments that will require the student to utilize the information resources available on the UAMS Library website, the UAMS Intranet and the Internet. This is a two credit hour course.
011084	PHPR 4000	A	P4 Clerkship	PHPR 7400	Adding P4's to this course in order to include them in the 11 day head count.
011651	PHPR 4454	A	Principles of Pharmacy Pract	PHPR 7201	Emphasis is placed on the role of the pharmacist in medication dispensing and patient care. Pharmacist responsibilities involving patient profiles, medication monitoring, drug product selection and generic substitution are discussed. The importance of patient counseling is stressed. Emphasis is also placed on the Top 200 Drugs, compliance with Board of Pharmacy Regulations, labeling/auxiliary labeling of prescriptions, technical practice aspects and knowledge of current dosage delivery systems. This course will provide students with information and skills in the areas of IV therapy and physical assessment. Students will demonstrate competency in aseptic techniques, IV admixtures, sterile products, drug delivery systems, and drug therapy monitoring. Lecture three hours per week, and laboratory three hours per week.
011047	PHPR 4604	A	Instit Intro Ph Pr Exper	PHPR 7202	This course will provide a structured practical professional experience in institutional pharmacy practice. Students are assigned a four week practice experience at the end of the spring semester (May, June, July). Through utilization of competency-based objectives, students gain a greater appreciation for the profession of pharmacy and develop professional attitudes, judgment and technical skills needed to function in the institutional setting. Students observe/discuss the role of the health-system pharmacist and actively participate in daily operations that focus on the distributive aspects of practice. To enter this course, a student must be eligible for advancement to the P3 year. This is a four credit hour, pass/fail course.
010879	PHPR 4625	A	Therapeutics I	PHPR 7203	Utilizing a pathophysiological approach, the therapeutics curriculum focuses on the structural and functional consequences of disease on various organ systems in the body. Each block of instruction begins with a discussion of the nature and causes of disease in an organ system. This is expanded through a discussion of the etiology, pathogenesis, diagnosis and treatment of the major disease states of that organ system. Emphasis is placed on the considerations for the drug therapy used, therapeutic goals, plans of treatment, dosage regimens, therapeutic alternatives and therapeutic endpoints. The goal of the course is to enable the student to assist in the development of the safest and most rational plan of drug therapy for a given patient. This is a five credit hour course that includes recitation.
011626	PHPR 4692	A	Self-Care Therapeutics	PHPR 7204	This course will prepare students to assess a patient and make recommendations for nonprescription medicines. Nonprescription medicines are widely used by patients; therefore, it is essential that students have a comprehensive understanding to interact appropriately with patients concerning the proper use of these medications. This is a two credit hour course.
011627	PHPR 5212	A	Adv Pharm Compounding	PHPR 7350	An elective advanced compounding course for pharmacy students who would like further instruction in preparing dosage forms used in contemporary pharmaceutical compounding. The course will include weekly required reading and online assignments along with a 2 hour laboratory session. The laboratory session will begin with a 15 minute pre-lab to discuss the product being compounded and the patient.
011526	PHPR 5242	A	PC Pharmacotherapy	PHPR 7351	This is an interprofessional elective course offered to third year pharmacy and fourth year medical students. The course is designed to allow students to hone the principles of rational medication use, evaluation, and monitoring in the primary care environment. Topics are presented in a disease-state focused discussion format. 2 credit hours
010912	PHPR 5285	A	Death and Dying	PHPR 7151	Interdisciplinary course preparing student to manage end-of-life care, particularly through (1) exploring personal issues related to mortality; (2) learning roles of participants in such care; (3) developing communication skills needed for care giving; (4) examining ethical issues related to death; and (5) examining economic and social aspects of funeral practices. 2 credit hours
011061	PHPR 5292	A	Diabetes Management	PHPR 7352	This course will provide a multidisciplinary foundation in the principles of comprehensive diabetes management. The student will develop their knowledge and ability to assess, manage, and educate patients with diabetes. The course, developed under the guidance of the University of Pittsburgh School of Pharmacy faculty members, is internet-based and requires the student to be self-directed in learning. There are 5 in-person sessions with the remainder independent study online.
011062	PHPR 5332	A	Spec Prob Clin Pract	PHPR 7150	Special problems course allows the student to work one-on-one with a faculty member on a research project, independent study or service project. With consent of faculty.
010924	PHPR 5342	A	Geriatric Therapeutics	PHPR 7353	The course will provide a concentrated introduction to the management of common geriatric pathologies. 2 credit hours
011728	PHPR 5352	A	Treatment Adherence	PHPR 7354	This course will focus on the role of the pharmacist in promoting treatment adherence in a variety of settings and disease states. Students will learn the principles of motivational interviewing, reasons for and consequences of nonadherence, tools to support adherence efforts, and related medical literature. Students will have the opportunity to apply these skills in a clinic setting. 2 credit hours

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011037	PHPR 5362	A	Drug-Induced Disease	PHPR 7355	This course explores the most appropriate interventions for prevention, detection and management of drug induced diseases. 2 credit hours
011729	PHPR 5372	A	Mental Health Movies & Th	PHPR 7356	This elective will provide an introductory course which will facilitate better understanding of mental health disorders. It will provide students an opportunity to apply clinical knowledge, skills and attitudes to the care of patients with mental health disorders. This elective will expose students to socioeconomic concerns facing patients with mental health disorders, including substance abuse and social distancing of mental health. Students will learn from lectures, discussions, patient simulation and interviews, movies and documentaries. Students will have 1-2 project(s) during the semester which will focus on mental health concerns.
012737	PHPR 5373	A	Infect Dis & Drug Therapy	PHPR 7362	This elective will provide students with opportunities for application of infectious disease principles. Students will be exposed to various learning environments including didactic lecture, team based learning, and clinical experience. The first part of the course will consist of didactic lecture to review microbiology, antimicrobial spectrum of activity, resistance mechanisms, and principles of 70 stewardship. The second portion will involve literature reviews, creation of drug monographs, and a debate topics among students. The final component will involve clinical experience with patients at Mercy Hospital Northwest AR. Clinical activities include review of antimicrobial regimens, culture results, and diagnostic tests. Based on these reviews students will recommend initiation, modification, or discontinuation of antimicrobial therapy.
011875	PHPR 5382	A	Health Literacy	PHPR 7357	
010910	PHPR 5412	A	Public Health: Overview	PHPR 7250	An introduction to basic and contemporary issues of public health. 2 credit hours
011152	PHPR 5472	A	PBL Therapeutics-Peds	PHPR 7358	This PBL course will use small groups to answer different therapeutic dilemmas occurring from infancy to adolescence. Each team will be charged with raising their child throughout the semester while encountering common pediatric problems that need therapeutic intervention. 2 credit hours.
012736	PHPR 5473	A	Supportive Care in Oncolo	PHPR 7363	This elective is an introduction to supportive care in oncology and the pharmacotherapeutic management of these patients. The main emphasis is self-directed student learning with faculty interaction as a facilitator utilizing a combination of didactic lecture, group discussion, patient simulation, student presentation and independent study.
011155	PHPR 5482	A	Teaching Elective	PHPR 7251	- Students enrolled in this 2-hour elective will learn the process of teaching a course in the pharmacy curriculum. Aspects may include the development of teaching modules, creating active learning exercises, using technology in the classroom, providing supplemental instruction for students, and assessing learning with examination questions. The student will serve as a teaching assistant for a pharmacology course and will gain a better understanding of pharmacology topics in preparation for therapeutics and advanced pharmacy practice experiences. This elective is open to up to 4 P3 students.
012653	PHPR 5492	A	Prep for PGRT	PHPR 7450	This course is designed to provide students with a critical appraisal of the PGRT landscape and prepares the student to navigate the process of becoming a competitive applicant, prepare a PGRT application, and interview successfully. This course is designed to facilitate the development of a more competitive PGRT candidate. 2 credit hours
011482	PHPR 5502	A	Clin Skills Pharm Pract	PHPR 7359	Provides hands-on experience in the area of clinical practice. Students will be required to work-up and present patients, perform several activities (e.g., SOAP notes, drug information questions, adverse drug reporting) to foster critical thinking skills. The goal is to provide the skills necessary to successfully complete P4 direct patient care experiences
010869	PHPR 5512	A	Radiopharmacy	PHPR 7152	Explores the chemical, physical, and biological properties of radiopharmaceuticals used in nuclear medicine. Production, quality control, and regulations of imaging agents will be examined. Emphasis will be placed on clinical applications of radiopharmaceuticals. 2 credit hours
011055	PHPR 5532	A	Pharmacy Law/Ethics	PHPR 7301	This course will provide students with information and skills in the areas of communication and pharmacy law. Students will be provided resources aimed at improving and utilizing communication skills in diverse pharmacy practice settings. The course will also cover the study of law, regulations and court decisions on federal, state, and local levels and the ethical considerations which control and influence pharmacy practice. Professional ethics will be covered in this course. Lecture two hours per week.
010889	PHPR 5562	A	Radiation Biology	PHPR 7153	Introduction to the interactions of radiation and biological systems, including chronic and delayed effects through physical and chemical changes from radiation. 2 credit hours
010886	PHPR 5572	A	Nuclear Instrumentation	PHPR 7154	Operational principles of radiation detection equipment to include statistical application and quality control. 2 credit hours
010888	PHPR 5583	A	Nuclear Physics	PHPR 7155	Concepts and physical properties governing the atom to include systems and units of measure, atomic and nuclear structure, and particulate and electromagnetic radiation. 3 credit hours
010885	PHPR 5592	A	Health Physics	PHPR 7156	A review of the legal, biological and administrative aspects of radiation protection in nuclear medicine. Emphasis on practical means of minimizing radiation exposure to the patient, staff and general public. 2 credit hours
011021	PHPR 5635	A	Therapeutics II	PHPR 7302	This course is a continuation of PhPr 7203, Therapeutics I. This is a five credit hour course that includes recitation.
011256	PHPR 5643	A	EBM and Pharmacoeconomics	PHPR 7303	This core course will teach the student to formulate a focused clinical question, to improve the student's literature critical appraisal skills, to determine the appropriateness of various biostatistical analyses, and to apply pharmacoeconomic techniques to inform drug product selections. The course will integrate statistical analysis and study design concepts into practical applications. This is a three credit hour course.
011049	PHPR 5645	A	Therapeutics III	PHPR 7304	This course is a continuation of PhPr 7302, Therapeutics II. This is a five credit hour course.
012655	PHPR 5651	A	3rd PROF YR-Long Intro P	PHPR 7307	The introductory pharmacy practice experience (IPPE) of the third professional year is a longitudinal, self-directed experience designed to provide multiple opportunities to perform patient-centered care activities in a variety of settings. Each student is responsible for accumulating 40 hours of IPPE over approximately one year (April of P2 Spring through April of P3 Spring) excluding the month during the assigned P2 Institutional IPPE. The P3 IPPE provides opportunity for students to explore / develop personal interests as well as broaden their perspective of pharmacy practice. Longitudinal exposures should expand on the experience gained in the previously completed Community and Institutional IPPEs. Activities appropriate for P-3 IPPE hours may include but are not limited to: shadowing of pharmacy practitioners; providing patient services and/or education at health fairs or screenings; "brown bag" medication reviews; volunteering at free medical clinics; participating in medical mission trips; student pharmacy exchange programs; or other pharmacy-based activities (obtain prior approval from course coordinator).
011050	PHPR 5654	A	Physical Assessment	PHPR 7305	The course will provide the student the opportunity to develop basic skills in physical assessment that include examination techniques, basic anatomy and physiology, and examples of abnormalities. In addition, longitudinal early practice experiences such as shadowing, wellness and health screenings, and free clinics. Other experiences will be reviewable by the course coordinator. Lecture equivalents of 2 hours per week (on-line primarily), instructional lab two hours per week, 40 hours of experiences.

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012735	PHPR 5656	A	PhPr Assessment & Skills	PHPR 7308	Pharmacy Practice Assessment and Skills (PPAS) emphasizes physical assessment, interviewing, and counseling skills necessary to assess common complaints and optimize drug therapy. Application of classroom concepts will be demonstrated in the Patient Care Lab. This course will enable students to utilize skills learned in previous didactic courses to provide patient centered care.
010908	PHPR 5702	A	Personal Finance	PHPR 7360	Provides future pharmacists the informational and decision-making tools needed for planning and implementing a successful personal financial plan. Topics include: Investing Principles, Retirement Planning, Income Taxes, Wealth Accumulation, Personal Insurance and Buying/Selling/Financing a House. 2 credit hours
011447	PHPR 5733	A	Pharm Management	PHPR 7306	Course is designed to teach students the requisite skills needed to perform managerial functions in a community and institutional pharmacy. Includes planning and integrating professional services, budgeting, inventory control, and human resource management topics. This is a three credit hour course.
012420	PHPR 5742	A	Spec Prob Pharm/Acad Admi	PHPR 7364	
011064	PHPR 5752	A	Entrepreneurship	PHPR 7157	This course is designed to enhance a student's knowledge in leadership, business, and financial skills in pharmacy practice while learning if he/she possesses an entrepreneurial spirit. The goal of the course is to provide students with 'hands-on' experience in starting a business or new service, owning and running your own business, and general management and leaderships skills. 2 credit hours
011481	PHPR 5892	A	PBL Ther - Crit Care	PHPR 7361	This elective utilizes a simulated case management format with emphasis on evaluating patient and agent variables and formulating appropriate therapeutic decisions. 2 credit hours
011140	PHPR 6714	A	Exper-Dir Pt Care-Acute	PHPR 7411	This experience allows students to apply didactic knowledge to direct patient care activities. Students will concentrate on patient specific pharmacotherapy, evidence based medicine, and effective communication with patients and healthcare professionals. Students will apply their knowledge of pathophysiology, pharmacology, and pharmacokinetics to optimize patient care in a hospital setting.
011141	PHPR 6724	A	Exper-Dir Pt Care - Ambul	PHPR 7412	This experience allows students to apply didactic knowledge to direct patient care activities. Students will have the opportunity to provide clinical pharmacy services in an outpatient setting. Students will concentrate on patient specific pharmacotherapy, evidence based medicine, and effective communications with patients and healthcare professionals.
011142	PHPR 6734	A	Exper-Dir Pt Care-Commun	PHPR 7414	This experience allows students to apply didactic knowledge to direct patient care activities. Students will have the opportunity to provide clinical pharmacy services utilizing pharmacotherapy, evidence based medicine, and physical assessment in a community/retail setting. This experience will focus on disease state management, medication therapy management, non-prescription medications, and effective communication skills.
011143	PHPR 6744	A	Exper-IndirPtCare-CommMgm	PHPR 7415	This experience teaches effective management skills to students through direct skill training and mentoring. This experience occurs in a community/retail setting and concentrates on marketing, operations, resource, and financial management, as well as effective communication skills.
011144	PHPR 6754	A	Exper-IndirPtCare-HlthSys	PHPR 7416	This experience teaches effective management skills to students through direct skill training and mentoring. This experience occurs in a hospital or institutional setting and concentrates on resource management, drug distribution, regulatory bodies, and communication with patients and healthcare professionals.
011145	PHPR 6764	A	Exper-SpecPharmPract	PHPR 7417	These experiences allow students the opportunity to practice pharmacy in a variety of specialty settings. Students can focus on specific areas of interest including nuclear pharmacy, compounding, regulatory, professional associations, industry, etc.
011874	PHPR 6774	A	Exper-Dir Pt Care Select	PHPR 7413	This experience allows students to apply didactic knowledge to direct patient care activities in either Acute Care or Ambulatory Care.
011470	PHPR 6814	A	IndivEducPlan-Acute Care	PHPR 7501	An (IEP) may include development, practice, and/or demonstration of competency. An IEP may involve the completion of activities to develop knowledge, skills, and/or attitudes and may incorporate the completion of additional IPPEs or APPEs. Clerkship IEPs must be successfully completed prior to attempting a repeat "for credit" IPPE/APPE clerkship. IEPs are customized experiences designed to improve student performance and are NOT eligible to count as credit for IPPE/APPE clerkships.
015167	PHPR 7401	A	P4 Clerkship I	PHPR 7401	P4 Clerkship I is a placeholder for COP students in their 4th year of the program. The clerkship will be swapped for the correct clerkship type near the end of the semester once their schedules are solidified.
015168	PHPR 7402	A	P4 Clerkship II	PHPR 7402	P4 Clerkship II is a placeholder for COP students in their 4th year of the program. The clerkship will be swapped for the correct clerkship type near the end of the semester once their schedules are solidified.
015169	PHPR 7403	A	P4 Clerkship III	PHPR 7403	P4 Clerkship III is a placeholder for COP students in their 4th year of the program. The clerkship will be swapped for the correct clerkship type near the end of the semester once their schedules are solidified.
015170	PHPR 7404	A	P4 Clerkship IV	PHPR 7404	P4 Clerkship IV is a placeholder for COP students in their 4th year of the program. The clerkship will be swapped for the correct clerkship type near the end of the semester once their schedules are solidified.
015171	PHPR 7405	A	P4 Clerkship V	PHPR 7405	P4 Clerkship V is a placeholder for COP students in their 4th year of the program. The clerkship will be swapped for the correct clerkship type near the end of the semester once their schedules are solidified.
015172	PHPR 7406	A	P4 Clerkship VI	PHPR 7406	P4 Clerkship VI is a placeholder for COP students in their 4th year of the program. The clerkship will be swapped for the correct clerkship type near the end of the semester once their schedules are solidified.
010397	PHSC 517V	A	Adv Biophar/ Pharmacokin	PSGP 5108	This course covers the quantitative treatment of the dynamics of drug absorption, distribution and elimination including the development of mathematical models for these processes and their clinical applications. Prerequisite: graduate standing and consent of instructor.
010399	PHSC 526V	A	Spec Prob Pharmac Sc	PSGP 5112	Individual investigation, other than thesis, of a special problem elected or assigned. Hours and credit to be arranged.
010400	PHSC 527V	A	Rsch in Pharmaceutical Sc	PSGP 5113	Prerequisite: graduate standing and consent of major advisor.
010408	PHSC 600V	A	Master's Thesis	PSGP 5201	Prerequisite: graduate standing and consent.
011635	PHSC 700V	A	Dissertation	PSGP 6201	Prerequisite: Admission to Ph.D. candidacy and dissertation committee consent.
011600	PHSC 3105	A	Anat/Phys/Pathology	PHSC 7101	This course is a study of the cellular and multicellular functions of human tissues, organs, and systems, and pathophysiology of the systems. Topics covered include the physiology of nerve and muscle, nervous system, cardiovascular, respiratory, and renal function, as well as endocrine and GI systems. Lecture five hours per week.
011043	PHSC 3214	A	Biolog Cell Chemistry	PHSC 7102	Topics covered in this course include the biological, chemical and cellular roles of carbohydrates, lipids, proteins, nucleic acids, hormones, enzymes and vitamins. In addition, the chemical and cellular basis of digestion, intermediary metabolism, biological oxidation and metabolic antagonism are discussed. Lecture four hours per week.

010858	PHSC 3225	A	Prin of Drug Actions	PHSC 7103	This course covers the principles of drug actions from both the pharmacological and medicinal chemical perspective. General principles of drug absorption, distribution, metabolism and excretion as well as pharmacodynamic principles governing dose-response relationships are covered. Subsequently, the focus shifts to specific agents including local anesthetics, neuromuscular blockers and drugs acting on the autonomic nervous system. Lecture five hours per week.
010852	PHSC 3414	A	Pharmaceutics I	PHSC 7104	A study of the physicochemical aspects of liquid dosage forms, both aqueous and non-aqueous, with emphasis on the technology and pharmaceutical rationale fundamental to their design and development. Lecture three to four hours per week, and recitation three hours per week half of the semester
010857	PHSC 3434	A	Pharmaceutics II	PHSC 7105	This course is a continuation of the study of dosage forms and pharmaceutical products with emphasis on solid and semi-solid systems. Dispensing techniques, physical and chemical incompatibilities, drug product evaluation, and aspects of drug product stability are studied in the laboratory. Lecture three hours per week, and laboratory three hours per week.
010873	PHSC 4124	A	Pharmacology I	PHSC 7201	The effects, biological mechanisms, therapeutic indications, interactions and toxicities of drugs are studied. Emphasis is placed on pharmacological principles that promote the understanding and rational approach to therapeutics. Lecture four hours per week.
010904	PHSC 4134	A	Pharmacology II	PHSC 7202	This course is a continuation of PhSc 7201. This is a four credit hour course.
011039	PHSC 4254	A	Med Chem/Nat Prod	PHSC 7203	This course is a study of the relationship between the physicochemical properties of synthetic and naturally derived drugs and their stability, absorption, distribution, metabolism, elimination, and pharmacological mechanism of action. Lecture four hours per week.
011237	PHSC 4423	A	Molec Biol & Biotech	PHSC 7204	This course covers fundamental molecular biology and extends this knowledge to provide the student a basic understanding of human genetics, biotechnology, and genetic and immunologic engineering. Emphasis will be placed on clinical applications and biotechnology-based drugs and therapies. This is a three credit hour course.
011052	PHSC 4443	A	Bas Pharmacokinetics	PHSC 7205	This course presents the basic concepts and principles of pharmacokinetics. The necessary mathematical expressions needed to characterize the absorption, distribution, metabolism, and excretion of drugs will be discussed with respect to routes of administration. Parameters that influence pharmacokinetic and therapeutic outcomes of the most common drug regimens will be emphasized. Additionally, the principles of therapeutic drug monitoring and dosing will be explained. Lecture three hours per week.
011053	PHSC 4642	A	Clin Pharmacokinetics	PHSC 7206	This course is designed to acquaint pharmacy students with the clinical application of pharmacokinetic principles. The course will provide a framework to approach clinically based pharmacokinetic dilemmas such as disease-drug and drug-drug interactions. In addition, practical mathematical applications will be taught that will allow dosing recommendations for patients on anticonvulsants, aminoglycosides, and vancomycin. Lecture two hours per week.
010390	PHSC 5013	A	Med Chem for Grad Student	PSGP 5101	This course is an overview of concepts from organic and medicinal chemistry and pharmacology that are fundamental to understanding the design of drugs, including factors affecting stability, absorption, distribution and metabolism.
010391	PHSC 5033	A	Pharmaceutics for Grad St	PSGP 5102	The primary objective of this course is to provide an overview of the discipline of pharmaceutics (the study of drug delivery systems) for graduate students. Particular emphasis is placed on physicochemical properties of drugs and dosage forms, both ex vivo and in vivo, important for basic research in the fields of the pharmaceutical sciences.
010392	PHSC 5041	A	Pharmaceutical Sc Seminar	PSGP 5103	Members of faculty and graduate students meet regularly for discussion and current studies in the field of the pharmaceutical sciences.
010393	PHSC 5053	A	Methods in Pharmaceu Sc	PSGP 5104	This course presents an overview of pharmaceutical science methods. Three main aspects are covered. The initial section discusses the development of a testable hypothesis, design of the experiment, and interpretation of results. The second section covers general laboratory procedures and safety issues. The third section covers several current model systems and their application to specific research questions. Prerequisites are graduate standing or the consent of the instructor.
001147	PHSC 5102	INV	Death & Dying	CHPI 4285	Death and Dying is an interprofessional (IPE) and interdisciplinary course that will explore a wide variety of issues that arise at the end of life. The course looks at the concept of dying, cultural and psychological responses to dying, communication with patients and loved ones about dying, the physiology of dying, as well as legal, ethical, and procedural issues when a person is dying or dead.
011026	PHSC 5142	A	Chemical Addiction	PHSC 7301	This course deals with the development, progression, symptomology, treatment and recovery aspects of addictive diseases. Although the model most heavily emphasized is alcoholism, addiction aspects of all drugs/chemicals are presented. Students attend meetings of various self-help groups as well as present talks to public school children. Lecture two hours per week.
010395	PHSC 5143	A	Molecular Modeling	PSGP 5106	Molecular modeling is an introduction to the computational techniques used to understand chemical structure, reactivity and the relationship between structure and biological function. The class will meet for two hours of lectures, and one laboratory session every week. During the laboratory sessions the students will use advanced graphics workstations.
011032	PHSC 5152	A	Toxicology	PHSC 7351	This course deals with the basic concepts of toxicology with an emphasis placed on prevention of exposure, exposure and the subsequent management of exposure of commonly found medicines, chemicals, plants and animals. Parameters that influence the toxicokinetics of these agents are emphasized. 2 credit hours
011339	PHSC 5182	A	Pcog/Comp & Alt Med	PHSC 7302	The purpose of this course is to provide an overview of the composition, beneficial properties, and potential negative effects of the most commonly used herbal products and dietary supplements used in recent years. Lecture two hours per week
011725	PHSC 5191	A	PEP Seminar	PSGP 5109	This seminar course is designed to cover contemporary topics relevant for trainees in the Pharmaceutical Evaluation and Policy track of the Pharmaceutical Sciences graduate program.
010398	PHSC 5192	A	Pharmacokinetic Design & DA	PSGP 5110	Review of current methods used in the design of pharmacokinetic investigations in animals and man, and of techniques used for analysis of pharmacokinetic data. Emphasis will be placed on advantages of various mathematical techniques for data analysis, the ethics and logistics of pharmacokinetic study design, and methods used to present pharmacokinetic data. Prerequisite: graduate standing and consent of instructor, and PSGP 5108 or PCOL 5104.
010534	PHSC 5253	A	Responsible Research	PSGP 5111	This course will explore the philosophies, rules, regulations and social structure of a responsible research environment. Emphasis will be on faculty culture, professionalism, federal regulation, ethical use of humans and animals, conflicts of interest, scientific misconduct, and the overall regulatory, normative and cognitive structures of a responsible research environment.

011817	PHSC 5303	A	Health Literacy	PSGP 5114	The course is designed to meet the UAMS Interprofessional Education Program requirements. For this reason, the course will be offered only if there are at least 12 students from at least two disciplines. This course provides an overview of health literacy and factors that contribute to health literacy. Impact of health literacy on individuals, communities, populations, and health systems will be addressed. The course is designed for student from different healthcare professions to develop necessary skills and best practices in health literacy to work in medical and community settings. Students will work together to facilitate and promote cultural sensitivity and will be able to work with patients or clients with limited health literacy. Students from various backgrounds will learn with, from and about each other throughout the implementation of the objectives of this course.
010402	PHSC 5323	A	Foundations PEP Rsch Met	PSGP 5116	The purpose of this course is to provide students with the introductory skills to become a researcher. The student will be exposed to a wide range of topics including sources for funding research, identifying research problems and writing study objectives, measurement, and study design.
010404	PHSC 5343	A	Retrospect Data Methods	PSGP 5118	This course will outfit students with the skills necessary to analyze and conduct studies using retrospective health care data with a focus on large administrative claims data such as Medicaid and private payer insurance claims. Students will use SAS to analyze actual health care data. Instruction on study design, statistical techniques, and data integrity issues specific to observational studies using these data sources will be offered.
010405	PHSC 5353	A	Pharmacoeconomics	PSGP 5119	The purpose of this course is to provide students with the skills to design, conduct, analyze and rate investigations that assess the value or outcomes of health care technologies with a focus on pharmacy related products and services. The course will also integrate the theoretical prefaces to health care technology as well as provide real world applications using decision modeling software to conduct cost effectiveness and other related studies.
010406	PHSC 5363	A	Pharm Econ Pol Eval	PSGP 5120	This course provides an understanding of pharmaceutical product markets and institutions from an economic perspective. Principles of economic theory are used to analyze the nature of demand and supply of pharmaceutical products, market structure of pharmaceutical industry, welfare implications, R&D and innovation, marketing, pricing, public policy, and government regulation.
010407	PHSC 5373	A	US Healthcare System	PSGP 5121	This course provides an overview of major components of the U.S. healthcare sector and addresses key challenges in financing and delivery of healthcare services. Topics include healthcare expenditures, quality, access, managed care, Medicare, Medicaid, health behavior, measurement of health, public health, pharmaceutical benefit management, health care reform, and asymmetric information. This is a three credit hour course and will be required for all persons without a prior U.S. degree in a health field such as pharmacy, medicine, public health, or nursing.
010612	PHSC 5383	A	Applied Hlth Econometrics	PSGP 5122	This course is designed to provide students with training in health econometrics techniques applicable to health care data. This course starts with basic econometrics theory, followed by discussions of selected econometric techniques that are commonly used in health economics. The course emphasizes application of these techniques and uses primarily Stata. Introduction to Stata is provided. Prerequisites: Biostats I & II or permission of the instructor.
011291	PHSC 5393	A	PRO Measurements	PSGP 5123	This course will provide graduate students a solid grounding in patient reported outcomes (PROs) and health-related quality of life (HRQL) concepts and how to measure them. Materials will cover PRO instrument development, including psychometric and utility theory. The course will provide students hands on experience with statistical analyses and psychometric testing using SAS. It will cover how to select appropriate PRO instruments for clinical studies to comply with governmental regulatory guidance. The course also offers students opportunities to assess and evaluate literature involved with HRQL information and PRO instruments in specific diseases/conditions as well.
010870	PHSC 5472	A	Spec Prob Pharmaceut Sci	PHSC 7150	This course allows the student to pursue a special research interest or project with a faculty member in the department.
011611	PHSC 6043	A	Good Regulatory Practices	PSGP 6101	A review of the U.S. Food and Drug (FDA) and International Conference on Harmonization (ICH) regulations on pharmaceutical good manufacturing, good laboratory, and good clinical practices. The meaning of these regulations, the globalization of practices, and the roles and responsibilities of various professionals implementing these regulations are addressed. Special emphasis is on detailed coverage of the process for the assembly and submission of an IND or NDA and the function of the regulatory affairs department in a pharmaceutical company.
011645	PHSC 6113	A	Bioorganic Mechanisms	PSGP 6102	This course will cover the detailed chemical and biomedical mechanism of action of selected drug molecules at target proteins that include enzymes, receptors and DNA. Emphasis will focus on underlying chemical principles of drug action.
011644	PHSC 6133	A	Biosyn Natural Prod	PSGP 6103	This course will introduce students to the general families of secondary metabolites, typically called "natural products" and their biosynthesis as well as techniques used to study these compounds. Such natural products are of enormous commercial importance to the pharmaceutical and agricultural industries.
011628	PHSC 6153	A	Des Mol w/Drug-like Prop	PSGP 6104	Of the thousands of novel drug molecules that emerge as leads from discovery initiatives, only a small fraction have appropriate ADME/TOX properties to be considered as drug products. This course will address the challenges involved in the optimization of lead compounds with promising biological activity to efficacious, drug-like molecules.
011643	PHSC 6163	A	Adv Org Chem	PSGP 6105	This course is an overview of concepts from organic and medicinal chemistry and pharmacology that are fundamental to understanding the design of drugs, including factors affecting stability, absorption, distribution and metabolism. Prerequisite-Consent
011642	PHSC 6173	A	Pharm & Altern & Comp Med	PSGP 6106	This course provides an overview of the composition, beneficial properties, and potential negative effects of the most commonly used herbal products and dietary supplements and the properties of the main kinds of bioactive natural products. In addition this course we will outline of the most popular complementary and alternative medicine approaches
011641	PHSC 6213	A	Controlled Release Doses	PSGP 6107	This course covers the physicochemical principles and quantitative skills involving the system designs for the controlled release of biologically active compounds. The main emphasis on this course is the mathematical analysis of controlled release system and the properties of polymeric materials used for controlled drug delivery. Prerequisite: consent of instructor
011640	PHSC 6223	A	Drug Action & Design	PSGP 6108	This course is an overview of concepts from organic and medicinal chemistry and pharmacology that are fundamental to understanding the design of drugs, including factors affecting stability, absorption, distribution and metabolism.
011639	PHSC 6313	A	Clinical & Pharm Analysis	PSGP 6109	This course is designed to introduce basic chemical, biological, analytical, and regulatory concepts involved in the measurement, interpretation, and application of laboratory data as it pertains to pharmacotherapy.

011638	PHSC 6332	A	Pharmacogenetics	PSGP 6110	This course will examine factors that affect drug response including genetics, environment, diet, age and concurrent drug therapy and health status. Methods important to pharmacogenomics research will be presented. The course will use a combination of lectures and student-led discussion of recent papers from the primary literature.
011637	PHSC 6353	A	Pharmacogenetics II	PSGP 6111	This course will focus on pharmacogenetics and pharmacogenomics research design, including utilization of key knowledge from the human genome and HapMap projects, candidate gene, versus genome-wide approaches, other consideration in design of human pharmacogenomics investigations, and approaches to defining functional effects of pharmacogenetic candidates. Prerequisite: PHSC 6333
011636	PHSC 6413	A	Radiation Biology	PSGP 6112	This is a course designed as an introduction to the interaction of ionizing radiation (IR) and biological systems. Topics include the basic principles of radiation biology, including the effects of IR on macromolecules, cells, tissues and organisms. It will also cover some of the topics regarding cancer radiotherapy and normal tissue protection.
011646	PHSC 6513	A	Pharmacoepidemiology	PSGP 6113	Pharmacoepidemiology is the study of the use of and the effects of medications in large numbers of people. This specialty combines information from clinical pharmacology (the study of effects of drugs in humans) and epidemiology (the use and effects of exposure in large populations) to form a unique area of study.
012569	PHTH 5101	A	Human Anatomy I	PHTH 5101	Comprehensive study of human anatomy concentrating on the nervous, skeletal, arthroial, muscular and circulatory systems of the upper extremity, with prosection labs and surface anatomy labs.
012570	PHTH 5102	A	Human Anatomy II	PHTH 5102	Continuation of PHTH 5101 with a comprehensive study of human anatomy concentrating on the nervous, skeletal, arthroial, muscular and circulatory systems of the lower extremity with prosection labs and surface anatomy labs. Prerequisite: PHTH 5101.
012577	PHTH 5103	A	Human Anatomy III	PHTH 5103	Continuation of PHTH 5102 with a comprehensive study of human anatomy concentrating on the nervous, skeletal, arthroial, muscular and circulatory systems of the cervical, thoracic and lumbar spine and pelvis with prosection labs and surface anatomy labs. Prerequisite: PHTH 5102.
012774	PHTH 5105	A	Neuroscience in PT	PHTH 5105	Survey of the structure and function of the nervous system, with emphasis on principles related to physical therapy practice. Special fee. Co-requisite: PHTH 5103
012578	PHTH 5111	A	Pathophysiology I	PHTH 5111	Physiological approach to the study of pathological changes in the human body brought about by trauma or disease, including cell injury, inflammation, immunopathology, neoplasia, infections, and the musculoskeletal and endocrine systems.
012587	PHTH 5114	A	Pharmacology I	PHTH 5114	The first of a three part study of pharmacological principles in relation to rehabilitation, with emphasis on the possible benefits and side-effects of chemotherapeutic agents on patients receiving physical therapy treatment. Co-requisite: PHTH 5132.
012579	PHTH 5121	A	Exercise Physiology I	PHTH 5121	Study of the effect of physical activity on human physiology with an emphasis on the musculoskeletal and endocrine systems.
012571	PHTH 5123	A	Movement Sciences I	PHTH 5123	A study of human movement as it relates to clinical physical therapy practice with an emphasis on biomechanical principles of movement.
012580	PHTH 5124	A	Movement Sciences II	PHTH 5124	Continuation of Movement Sciences I, with a focus on how we control movement. Prerequisite: PHTH 5123.
012585	PHTH 5125	A	Movement Sciences III	PHTH 5125	Continuation of Movement Sciences II, exploring the theories and principles of motor control and motor learning as they apply to the analysis of human movement and physical therapy assessment and intervention. Prerequisite: PHTH 5124.
012572	PHTH 5131	A	Intro PT Skills	PHTH 5131	Introduction to the principles and techniques of patient care utilized in physical therapy practice.
012588	PHTH 5132	A	Therapeutic Intervn I	PHTH 5132	Study of specific techniques of therapeutic intervention in physical therapy with an emphasis on electrophysical agents and the role they play in rehabilitation. Prerequisite: PHTH 5144.
012573	PHTH 5141	A	Muscoskeletal Disorders I	PHTH 5141	Introduction to musculoskeletal disorders, including the etiology, diagnostic procedures and radiography, medical management, physical therapy evaluation, treatment and intervention of selected musculoskeletal disorders, with an emphasis on the upper extremities.
012574	PHTH 5142	A	Musculoskeletal Dis II	PHTH 5142	Continuation of PHTH 5141, that includes etiology, diagnostic procedures and radiography, medical management, physical therapy evaluation, treatment and intervention of selected musculoskeletal disorders, with an emphasis on the lower extremities. Prerequisite: PHTH 5141
012581	PHTH 5143	A	Musculoskeletal Dis III	PHTH 5143	A continuation of PHTH 5142 that includes etiology, diagnostic procedures and radiography, medical management, physical therapy evaluation, treatment and intervention of selected musculoskeletal disorders with an emphasis on the lumbar spine and pelvis. Prerequisite: PHTH 5142.
012582	PHTH 5144	A	Musculoskeletal Dis IV	PHTH 5144	Continuation of PHTH 5143 that includes etiology, diagnostic procedures and radiography, medical management, physical therapy evaluation, treatment and intervention of selected musculoskeletal disorders with an emphasis on the cervical and thoracic spine, the ribs, and temporomandibular joint (TMJ). Prerequisite: PHTH 5143.
012593	PHTH 5151	A	Neuromuscular Disorder I	PHTH 5251	Preparation of the entry-level physical therapist to provide services to children with special health care needs/disabilities and their families in a manner consistent with family-centered care. Co-requisite: PHTH 5124.
012575	PHTH 5171	A	Professional Issues I	PHTH 5171	Study of physical therapy as a profession with emphasis on the patient management model, legal and ethical issues, psychosocial issues, PT/patient relationships and a review of medical terminology.
012583	PHTH 5172	A	Professional Issues II	PHTH 5172	Cotinuation of Professional Issues I, this course examines the professional behaviors required to practice physical therapy effectively in various healthcare delivery models. Prerequisite: PHTH 5171.
012576	PHTH 5181	A	Clinical Reasoning I	PHTH 5181	Development of clinical judgment as part of patient management including examination, evaluation based on examination data, establishing a physical therapy diagnosis, consideration of patient prognosis, and development of an individualized plan of care. Primary emphais will be on musculoskeletal disorders of the upper and lower extremities.
012584	PHTH 5182	A	Clinical Reasoning II	PHTH 5182	Continuation of Clinical Reasoning I, this course designed to provide opportunites to develop clinical judgment as part of patient management including examination, evaluation based on examination data, establishing a physical therapy diagnosis, consideration of patient prognosis, and development of an individualized plan of care. Emphasis will be on musculoskeletal spinal disorders and pediatric disorders. Prerequisite: PHTH 5181.
012589	PHTH 5191	A	Clinical Experience I	PHTH 5191	Planned learning experience of clinical education designed to integrate previous didactic knowledge in a full time, 8-week long supervised clinical experience in Physical Therapy outpatient orthopaedic practice setting. Prerequisite: PHTH 5132, PHTH 5181.
012616	PHTH 5204	A	Human Anatomy IV	PHTH 5204	Continuation of PHTH 5103 with a comprehensive study of human anatomy concentrating on the nervous, skeletal, arthroial, muscular and circulatory systems of the head, face and trunk, with an emphasis on organ systems. Prerequisite:PHTH 5103
012590	PHTH 5212	A	Pathophysiology II	PHTH 5212	Physiological approach to the study of pathological changes in the human body brought about by trauma or disease, with a focus on neurological conditions. Prerequisite: PHTH 5111.

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012617	PHTH 5213	A	Pathophysiology III	PHTH 5213	Physiological approach to the study of pathological changes in the human body brought about by trauma or disease, with a focus on cardiovascular and pulmonary conditions. Prerequisite PHTH 5212
012773	PHTH 5215	A	Pharmacology II	PHTH 5215	The second of a three part study of pharmacological principles in relation to rehabilitation, with emphasis on the possible benefits and side-effects of chemotherapeutic agents on patients receiving physical therapy treatment. Co-requisite: PHTH 5132
012591	PHTH 5215	A	Pharmacology III	PHTH 5216	The third of a three part study of pharmacological principles in relation to rehabilitation, with emphasis on the possible benefits and side-effects of chemotherapeutic agents on patients receiving physical therapy treatment. Co-requisite: PHTH 5215
012621	PHTH 5222	A	Exer Physiology II	PHTH 5222	Study of the effect of physical activity on human physiology, with an emphasis on the physiology of the cardiovascular and pulmonary systems.
012634	PHTH 5233	A	Ther Intervention II	PHTH 5233	Continuation of therapeutic intervention I this course involves the theory and practice of various physical therapy interventions, including biofeedback, functional electrical stimulation and aquatic therapy. Prerequisite: PHTH 5132
012772	PHTH 5234	A	Mobility & Equipment	PHTH 5234	Study of human functional mobility, including pathological aspects of locomotion. The course will address gait analysis of individuals with neurological condition, and the use of devices such as standing frames, modified wheelchairs prosthetics and orthotics. Co-requisite: PHTH 5225
012635	PHTH 5235	A	Psych Aspects of Rehab	PHTH 5235	Discussion of human interactions in professional-patient relationships and how they influence patient outcomes. Prerequisite: PHTH 5292
012636	PHTH 5236	A	Hlth Promo & Wellness	PHTH 5236	Prevention of impairments, functional limitations, or disabilities by identifying disablement risk factors and providing educational intervention to facilitate a positive change in the health behavior of patients. Co-requisite: PHTH 5235
012637	PHTH 5245	A	Musculoskel Disorders V	PHTH 5245	Special topics in the management of musculoskeletal conditions - including ergonomics, sports medicine, chronic musculoskeletal pain and musculoskeletal issues in obstetrics and gynecology. Prerequisite: PHTH 5144
012594	PHTH 5252	A	Neuromuscular Dis II	PHTH 5252	Study of the management of adults with neurological disorders. Prerequisite: PHTH 5151.
012623	PHTH 5253	A	Neuromus Dis III	PHTH 5253	Study of the management of geriatric disorders. Prerequisite PHTH 5252
012625	PHTH 5261	A	Cardio & Pul Disorders	PHTH 5261	Study of the principles and practice of physical therapy for patients with cardiovascular and pulmonary disease. Co-requisites: PHTH 5204, 5213, 5215, 5222
012595	PHTH 5273	A	Professional Issues III	PHTH 5273	Continuation of Professional Issues II, this course examines the professional behaviors required to build a career in physical therapy. Prerequisite: PHTH 5172.
012638	PHTH 5274	A	Res Prin&Evid-based Prac	PHTH 5274	Introduction to research concepts and statistical methods and critical analysis of the scientific literature. Topics include descriptive and inferential analysis of research data, sensitivity and specificity and predictive ratios.
012596	PHTH 5283	A	Clinical Reasoning III	PHTH 5283	Continuation of Clinical Reasoning II, this course designed to provide opportunities to develop clinical judgment as part of patient management, with an emphasis on adult neuromuscular disorders. Prerequisite: PHTH 5182.
012626	PHTH 5284	A	Clin Reasoning IV	PHTH 5284	Continuation of Clinical Reasoning III, this course designed to provide opportunities to develop clinical judgment as part of patient management, with an emphasis on geriatric, cardiovascular and pulmonary disorders. Prerequisite: PHTH 5283
012639	PHTH 5285	A	Clin Reasoning V	PHTH 5285	Continuation of Clinical Reasoning IV, this course designed to provide opportunities to develop clinical judgment as part of patient management to include debriefing from Clinical Experience II and using case studies to prepare for Clinical Experience III. Prerequisite: PHTH 5284
012641	PHTH 5286	A	Clin Reasoning VI	PHTH 5386	Continuation of Clinical Reasoning V, this course designed to provide opportunities to develop clinical judgment as part of patient management including examination to include debriefing from Clinical Experience III and using case studies to prepare for Clinical Experience IV. Prerequisite: PHTH 5285
012631	PHTH 5292	A	Clin Experience II	PHTH 5292	Planned learning experience of clinical education designed to integrate previous didactic knowledge in a full time, supervised 10 week long clinical experience in a physical therapy practice setting. Prerequisite: PHTH 5191 (Pass/Fail)
012597	PHTH 5346	A	Manual Therapy	PHTH 5346	Advanced study of manual therapy techniques, with an emphasis on techniques used in orthopaedic practice.
012598	PHTH 5347	A	Strength & Conditioning	PHTH 5347	This elective will prepare the student to take the National Strength and Conditioning Association (NSCA) exam for a Certified Strength and Conditioning Specialist (CSCS).
012599	PHTH 5348	A	Women's Health	PHTH 5348	Advanced study of the role of physical therapy in women's health disorders, with an emphasis on assessment and treatment of pelvic floor disorders.
012600	PHTH 5349	A	Hand Rehab	PHTH 5349	This course will introduce hand therapy skills beyond entry level PT practice that will help students begin the path towards becoming a certified hand therapist.
012601	PHTH 5354	A	Advanced Pediatrics	PHTH 5354	Advanced study of physical therapy for pediatric patients.
012602	PHTH 5355	A	Advanced Adult Neuro	PHTH 5355	Advanced study of physical therapy for the geriatric patient.
012603	PHTH 5356	A	Vestibular Rehab	PHTH 5356	Focus on the assessment and treatment of patients with vertigo and disequilibrium from vestibular causes.
012604	PHTH 5357	A	Electroneuromyography	PHTH 5357	Introduction to the principles and practice of electroneuromyography (ENMG), which includes the use of nerve conduction studies (NCS) and needle EMG.
012642	PHTH 5362	A	Integumentary Disorders	PHTH 5362	Study of the practice of physical therapy in management of skin disorders and underlying disease with an emphasis on the patient with open wounds, including burns.
012643	PHTH 5375	A	Admin&Hlthcare Mgmt	PHTH 5375	Study of current organizational and management principles and issues related to health care delivery systems, with special emphasis on the current and future roles of Physical Therapy. Prerequisite: PHTH 5394
012644	PHTH 5376	A	Comp Capstone	PHTH 5376	Occurring in the final weeks of the curriculum, this course involves a comprehensive review and preparation for taking the National Physical Therapy Examination. Prerequisite: PHTH 5394
012605	PHTH 5377	A	Research Proposal	PHTH 5377	Application of research concepts and methods in the preparation of a proposal for a faculty-assisted research project including IRB submission and preparation of the proposal for presentation in written and seminar formats.
012611	PHTH 5387	A	Directed Study	PHTH 5387	This course could take many paths, including a review of the literature, data collection on an existing research project, producing a patient-education product, or continuing education.
012606	PHTH 5388	A	Teaching & Learning	PHTH 5388	Students will have an opportunity to prepare and deliver teaching content for the first or second year physical therapy students, under the guidance of one of the PT faculty.
012640	PHTH 5393	A	Clin Experience III	PHTH 5393	Planned learning experience of clinical education designed to integrate previous didactic knowledge in a full time, supervised 10 week long full time clinical experience in a physical therapy practice setting. Prerequisite: PHTH 5292 (Pass/Fail)
012645	PHTH 5394	A	Clin Experience IV	PHTH 5394	Planned learning experience of clinical education designed to integrate previous didactic knowledge in a full time, supervised 6 week long clinical experience in a physical therapy practice setting at an elective clinical site. Prerequisite: PHTH 5393 (Pass/Fail)

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012607	PHTH 5396	A	Service Learning	PHTH 5396	Exploration of the physical therapist's role in providing a variety of services to medically underserved communities.
012608	PHTH 5397	A	Spanish for PTs	PHTH 5397	This elective is designed to improve students' communication in clinical situations with Spanish speaking patients and their caregivers. The focus will be on learning conversational skills necessary to take clinical histories, conduct physical examinations and give instructions to Spanish speaking patients and their families.
010427	PHYO 504V	A	Research in Physiology	PHYO 5105	Conducted under a faculty mentor or dissertation advisor usually after the completion of required coursework. Subjects of research will vary depending on the faculty research interests.
010434	PHYO 600V	A	Master's Thesis	PHYO 5201	Prerequisite: graduate standing and preceptor consent.
010435	PHYO 601V	A	Selected Reading in Physiology	PHYO 6101	Consists of assigned reading in various aspects of physiology with an emphasis both on the historical development of physiological thinking and rapidly developing fields of current interest.
010438	PHYO 700V	A	Doctoral Dissertation	PHYO 6201	Prerequisite: candidacy and dissertation committee consent.
010425	PHYO 5013	A	General Physiology	PHYO 5103	Consists of lectures, demonstrations, and laboratory exercises designed to teach the general principles of physiology.
010426	PHYO 5033	A	Cellular Endocrinology	PHYO 5104	Covers general endocrinology, both anatomical and physiological. Students will prepare a term paper on a selected area in the field. Prerequisite: PHYO 5103 and consent.
010428	PHYO 5051	A	Physiology-Biophysics Seminar	PHYO 5106	Seminars are held one hour per week. Faculty leaders select the topics and graduate students prepare presentations one or more times each semester.
010429	PHYO 5063	A	Molecular Biophysics I	PHYO 5107	Introduction to molecular biophysics: the investigation of the structure, dynamics and function of biological macromolecules, using physical techniques. Subject matter includes selected cellular macromolecules (e.g., polypeptides; nucleic acids), the role of molecular chaperones, and relevant topics in radiation biophysics. Prerequisite: BIOC 5103 or equivalent.
010431	PHYO 5092	A	Lab Animal Techniques	PHYO 5109	Consists of lectures and practical laboratory exercises involving methods of drug administration, methods of anesthesia, experimental surgery, and the use of physiological recording devices. Prerequisites: Comparative or Mammalian Anatomy or equivalent and PHYO 5101.
011467	PHYO 5102	A	Protein Crystallography	PHYO 5110	The goal of this course is to provide a body of basic knowledge for analyzing molecular structure using x-ray crystallographic techniques. The topics will include the general principles of x-ray diffraction, crystallization techniques and model building. The course is also intended to give the students an insight into structure-function relationships of biological molecules. Prerequisite: consent of instructor
010536	PHYO 5143	A	Gene Expression	PHYO 5112	The focus of this course is on the various processes involved in the flow of information from genes to their expressed products. Regulation of these processes will be explored in depth for both prokaryotic and eukaryotic systems. Topics will include: Genome organization, DNA replication and recombination, transcription, RNA processing, translation, genomics and proteomics, differentiation and development.
010436	PHYO 6073	A	Basic Biology of Aging	PHYO 6102	This course provides an overview of the current understanding of the biology of aging. The focus will be on concepts pertaining to organismal aging. Areas covered include: theories of aging, aging models, genomics and proteomics in aging, and oxidative stress and aging. Prerequisite: consent of instructor
010946	PSYC 6335	A	UCA: Ident and Remed Lmg Prob	PSYC 6335	Surveys issues and procedures regarding the diagnosis and remediation of learning problems.
011389	PSYC 6354	A	UCA: Theor Psyc Ther Counsel	PSYC 6354	Provides an overview of the major theoretical approaches to psychotherapy, including a critical evaluation of each theory.
010941	PSYC 6361	A	UCA: Problems I	PSYC 6361	
012693	RAD 2121	A	BPC Lab	RISP 2121	Practice and application of common patient care theories, procedures, and techniques emphasizing the physical and psychological wellness of the patient during diagnostic imaging procedures.
001084	RAD 2123	A	Radio Proc Lab I	RISP 2123	Laboratory session to accompany Radiographic Procedures I. Guided practice in principles of radiographic positioning.
001087	RAD 2212	A	Radiologic Anat	RISP 2212	An investigation of human anatomy of the skeletal, gastrointestinal, genitourinary, cardiovascular, and central nervous systems as demonstrated on radiologic images.
001088	RAD 2226	A	Clin Practicum I	RISP 2226	Supervised clinical experience emphasizing radiographic procedures of the chest, abdomen, and extremities.
001089	RAD 2234	INV	Radiologic Imaging	RISP 2334	A study of the physical aspects of advanced imaging systems such as automatic exposure devices, fluoroscopic systems, tomography, computed tomography, and magnetic resonance imaging. The use of computers in radiology is emphasized.
001090	RAD 2321	A	Bas Patient Care	RISP 2421	A discussion of common patient care theories, procedures, and techniques emphasizing the physical and psychological wellness of the patient during diagnostic imaging procedures. Ethical and legal principles are included.
001091	RAD 2322	A	Radio Proc I	RISP 2322	A study of radiographic positioning of the chest, abdomen, extremities, and vertebral column.
001092	RAD 2324	INV	Radiographic Exp	RISP 2324	A study of radiographic density, contrast, detail, and distortion; radiographic film, screens, and accessory imaging equipment; factors affecting technique selection; and automatic processing.
001093	RAD 2331	A	Radiation Physics	RISP 2331	A study of the instrumentation of radiographic equipment, x-ray tubes, the production of x-rays, properties of electromagnetic radiation, and x-ray interactions.
001094	RAD 2332	A	Radio Proc II	RISP 2332	A study of radiographic positioning of the cranium, gastrointestinal structures, and genitourinary structures.
012415	RAD 2334	A	Rad Imaging	RISP 2334	A study of the physical aspects of advanced imaging systems such as automatic exposure devices, fluoroscopic systems, tomography, computed tomography, and magnetic resonance imaging. The use of computers in radiology is emphasized.
001095	RAD 2335	A	Clin Practicum II	RISP 2335	Supervised clinical experience emphasizing radiographic procedures of the extremities and vertebral column.
012414	RAD 2424	A	Rad Exposure	RISP 2324	A study of radiographic density, contrast, detail, and distortion; radiographic film, screens, and accessory imaging equipment; factors affecting technique selection; and automatic processing.
012695	RAD 3141	A	Career Essentials	RISP 3142	Interactive course focusing on critical job search skills in healthcare.
012783	RAD 3142	INV	Career Essentials	RISP 3142	Interactive course focusing on critical job search skills in healthcare.
011399	RAD 3212	INV	Rad Sect Anatomy	RISP 3213	A study of human sectional anatomy in transverse, longitudinal, and coronal planes with an emphasis on the organs of interest in Computed Tomography and Magnetic Resonance Imaging.
011430	RAD 3213	A	Radiog. Sectional Anat	RISP 3213	A study of human sectional anatomy in transverse, longitudinal, and coronal planes with an emphasis on the organs of interest in Computed Tomography and Magnetic Resonance Imaging.
001096	RAD 3253	A	Radio Proc III	RISP 3253	A study of alternate radiographic projections, pediatric radiography, geriatric radiography, and trauma radiographic procedures.
001097	RAD 3351	A	Spec Imaging Proc	RISP 3351	A study of advanced radiologic procedures of the skeletal, cardiovascular, genitourinary, and gastrointestinal systems emphasizing pharmacology, the use of radiologic contrast media, and the equipment used during these procedures.

001098	RAD 3352	A	Rad Protctn/Radiobiol	RISP 3352	A study of the principles and practices of the safe application of radiation and of the responses of biological systems to irradiation.
001101	RAD 3461	A	Radiologic Pathol	RISP 3461	A study of disease processes emphasizing major organ-related and multiple system disease from a clinical and radiologic standpoint.
001102	RAD 3541	A	Clin Practicum III	RISP 3541	Supervised clinical experience emphasizing radiographic procedures of the cranium, gastrointestinal system, and genitourinary system.
001103	RAD 3554	A	Clin Practicum IV	RISP 3554	Supervised clinical experience emphasizing pediatric and trauma radiographic procedures and the refinement of radiographic skills in orthopedic, gastrointestinal, and genitourinary procedures.
001104	RAD 3563	INV	Clin Practicum V	RISP 3663	Supervised clinical experience emphasizing geriatric and advanced skeletal, cardiovascular, genitourinary, and gastrointestinal radiographic procedures; an introduction to various imaging modalities; and the demonstration of competency on all required clinical skills.
011689	RAD 3641	INV	Clin Prac III	RISP 3541	Supervised clinical experience emphasizing radiographic procedures of the cranium, gastrointestinal system, and genitourinary system.
011429	RAD 3663	A	Clinic Practicum V	RISP 3663	Supervised clinical experience emphasizing geriatric and advanced skeletal, cardiovascular, genitourinary, and gastrointestinal radiographic procedures; an introduction to various imaging modalities; and the demonstration of competency on all required clinical skills.
010865	RAD 4102	A	Independent Study	RISP 4102	
004843	RAD 4281	INV	Geriatric Imaging	RISP 4381	Imaging of special populations can be challenging. This course is designed to discuss various populations and the imaging techniques needed for them.
001106	RAD 4291	INV	Curr Iss Hlth Care	RISP 4394	An emphasis on the critical evaluation of ethical, legal, and economic problems associated with health care delivery.
001107	RAD 4382	INV	Adv Patient Care	RISP 4382	A study of advanced patient care skills emphasizing the cardiovascular and respiratory systems.
001109	RAD 4386	INV	Phys Computed Tom	RISP 4386	A study of the instrumentation of computed tomography, computed tomographic image formation, and radiation dose and safety concerns.
001110	RAD 4387	INV	Computed Tom Proc	RISP 4387	A study of computed tomographic procedures of the head, neck, vertebral column, chest, extremities, abdomen, and pelvis. Anatomy, positioning, scanning procedures, post-processing procedures, and patient care are emphasized.
001113	RAD 4392	INV	Phys Mag Res Img	RISP 4392	A study of the instrumentation of magnetic resonance imaging, magnetic resonance image formation, and magnetic field safety concerns.
001114	RAD 4393	INV	Mag Res Img Proc	RISP 4393	A study of magnetic resonance imaging procedures of the head, neck, vertebral column, chest, extremities, abdomen, and pelvis. Anatomy, positioning, scanning procedures, post-processing procedures, and patient care are emphasized.
001115	RAD 4395	INV	Adv Angiography I	RISP 4395	Advanced vascular angiographic procedures performed using angiographic equipment. This course includes an in-depth study of vascular imaging equipment, cerebral angiography, abdominal visceral angiography, and upper and lower extremity angiography.
001116	RAD 4396	INV	Adv Angiography II	RISP 4396	Advanced vascular angiographic procedures performed using angiographic equipment. This course includes an in-depth study of pulmonary and thoracic angiography, cardiac catheterization, the venous system, and non-vascular special procedures.
001117	RAD 4398	INV	Managerial Ldrshp	RISP 4398	Basic principles and practices necessary for effective supervision and leadership in a health care environment. Includes principles and practices in human resource management in health care settings.
001122	RAD 4399	INV	Rsrch in Rad Sci	RISP 4399	An introduction to research in the radiologic sciences, including literature review, research design, methodology, data collection, scientific writing, and research publications.
001118	RAD 4585	INV	Mammography Pract	RISP 4585	Supervised clinical experience in mammography.
001119	RAD 4588	INV	CT Practicum	RISP 4588	Supervised clinical experience in computed tomography.
001120	RAD 4594	INV	MRI Practicum	RISP 4594	Supervised clinical experience in magnetic resonance imaging.
001121	RAD 4597	INV	Vascular Pract	RISP 4597	Supervised clinical experience in vascular interventional imaging.
012342	RES 4V40	INV	Legal & Ethical Issues	RESP 4140	A review of basic legal and ethical principles which serve as a foundation for interprofessional clinical practice.
012699	RES 4V44	INV	Scholarship Project	RESP 4244	Introduction to the application of scientific research methods
012776	RES 4V53	INV	Bachelor's Thesis	RESP 4653	The Bachelor's thesis is implemented, evaluated, and evidenced-based recommendations are disseminated. Prerequisite: RESP 4248.
000279	RES 2117	INV	Clin Practicum	RESP 3117	Supervised clinical experience in basic respiratory care procedures and practices.
000208	RES 2123	INV	Eq & Tech II Lab	RESP 3223	Critical respiratory care equipment and function, maintenance and use; guided practice prior to clinical experiences.
000206	RES 2221	INV	CR Disorders	RESP 3421	Study of common respiratory and cardiac disorders.
000207	RES 2222	INV	Eq & Tech II	RESP 3322	Cardio-respiratory Care of critically ill patients with emphasis on mechanical ventilation and physiologic monitoring.
000209	RES 2224	INV	Ped & Perinat	RESP 3327	Study of neonatal respiratory care with emphasis on: physiology, cardiopulmonary disorders, assessment, evaluation, monitoring, and modalities of treatment. The laboratory will focus on neonatal critical care equipment function, maintenance, and use and guided practice prior to clinical experiences. Neonatal Resuscitation Program (NRP) certification required.
000211	RES 2226	INV	Pharmacology	RESP 3116	Practical and clinical pharmacology related to inhaled drugs administered by the respiratory therapist.
000212	RES 2227	INV	Clin Pract II	RESP 3226	Continuation of Clinical Practicum I; includes an introduction to critical respiratory care procedures and practice.
000217	RES 2334	INV	Clin Pract III	RESP 3226	Continuation of Clinical Practicum I; includes an introduction to critical respiratory care procedures and practice.
000219	RES 2642	INV	Clinical Internship	RESP 3231	Concentrated clinical experiences in critical and non-critical respiratory care procedures and practices.
000201	RES 3113	A	Eq & Tech I Lab	RESP 3113	Respiratory care equipment function, maintenance and use; guided practice prior to clinical experiences.
000203	RES 3115	A	Bas Assess & Diag Lab	RESP 3115	Cardio-respiratory assessment and diagnostic equipment function, maintenance and use; guided practice prior to clinical experience.
011269	RES 3116	A	Pharmacology I	RESP 3116	Practical and clinical pharmacology related to inhaled drugs administered by the respiratory therapist.
011268	RES 3117	A	Clin Prac I	RESP 3117	Supervised clinical experience in basic respiratory care procedures and practices.
011410	RES 3124	A	Intro to Clinical Practice	RESP 3124	Review and application of practical and clinical pharmacology and basic cardio-respiratory assessment and an introduction to therapeutic and diagnostic procedures commonly used in respiratory care practice. The course will include clinical observation of therapeutic and diagnostic procedures and discussion of case studies. (Elective course.)

011171	RES 3127	INV	Pulmonary Function Test.	RESP 3128	The Registered Respiratory Therapist (RRT) is expected to understand pulmonary function testing (PFT) methods, perform PFT procedures, interpret PFT result, and analyze data related to pulmonary function lab quality control and quality assurance. This course is designed to prepare students for clinical experience with PFT performance, PFT interpretation, use of PFT results in patient care management, an understanding of quality control/quality assurance methods used in the PFT lab.
011294	RES 3128	A	Pulmonary Funct. Testing	RESP 3128	The Registered Respiratory Therapist (RRT) is expected to understand pulmonary function testing (PFT) methods, perform PFT procedures, interpret PFT result, and analyze data related to pulmonary function lab quality control and quality assurance. This course is designed to prepare students for clinical experience with PFT performance, PFT interpretation, use of PFT results in patient care management, an understanding of quality control/quality assurance methods used in the PFT lab.
011146	RES 3132	A	Pharmacology II	RESP 3132	A continuation of Pharmacology I. Emphasis will be placed on non-steroidal, anti-asthmatic and anti-infective drugs as well as sedatives, analgesics, neuromuscular blocking agents, and cardiac drugs.
011076	RES 3211	INV	CRC A & P	RESP 3411	Emphasis on the respiratory, cardiac, and renal systems.
000220	RES 3216	INV	Pharmacology	RESP 3116	Practical and clinical pharmacology related to inhaled drugs administered by the respiratory therapist.
011400	RES 3221	INV	CR Disorders I	RESP 3421	Study of common respiratory and cardiac disorders.
000225	RES 3223	A	Eq & Tech II Lab	RESP 3223	Critical respiratory care equipment and function, maintenance and use; guided practice prior to clinical experiences.
011170	RES 3224	INV	NEO Resp. Care	RESP 3327	Study of neonatal respiratory care with emphasis on: physiology, cardiopulmonary disorders, assessment, evaluation, monitoring, and modalities of treatment. The laboratory will focus on neonatal critical care equipment function, maintenance, and use and guided practice prior to clinical experiences. Neonatal Resuscitation Program (NRP) certification required.
000228	RES 3226	A	Clin Prac II	RESP 3226	Continuation of Clinical Practicum I; includes an introduction to critical respiratory care procedures and practice.
011301	RES 3227	INV	Neonatal Cardio Care	RESP 3327	Study of neonatal respiratory care with emphasis on: physiology, cardiopulmonary disorders, assessment, evaluation, monitoring, and modalities of treatment. The laboratory will focus on neonatal critical care equipment function, maintenance, and use and guided practice prior to clinical experiences. Neonatal Resuscitation Program (NRP) certification required.
000229	RES 3231	A	Clinical Internship	RESP 3231	Concentrated clinical experiences in critical and non-critical respiratory care procedures and practices.
000199	RES 3311	INV	CR Anat & Phys	RESP 3411	Emphasis on the respiratory, cardiac, and renal systems.
000200	RES 3312	INV	Eq. & Tech I	RESP 3412	Respiratory Care procedures and equipment; emphasis on basic respiratory care procedures and practice.
000202	RES 3314	A	Bas Assess & Diagnois	RESP 3314	Basic cardio-respiratory assessment and diagnostic procedures and practice.
000223	RES 3322	A	Eq & Tech II	RESP 3322	Cardio-respiratory Care of critically ill patients with emphasis on mechanical ventilation and physiologic monitoring.
011648	RES 3327	A	Neo Cardio Care	RESP 3327	Study of neonatal respiratory care with emphasis on: physiology, cardiopulmonary disorders, assessment, evaluation, monitoring, and modalities of treatment. The laboratory will focus on neonatal critical care equipment function, maintenance, and use and guided practice prior to clinical experiences. Neonatal Resuscitation Program (NRP) certification required.
011563	RES 3411	A	Cardiopulmonary A & P	RESP 3411	Emphasis on the respiratory, cardiac, and renal systems.
001124	RES 3412	A	Equip & Tech I	RESP 3412	Respiratory Care procedures and equipment; emphasis on basic respiratory care procedures and practice.
001125	RES 3414	INV	Bas Assessment/Diag	RESP 3314	Basic cardio-respiratory assessment and diagnostic procedures and practice.
011612	RES 3421	A	CR Disorders	RESP 3421	Study of common respiratory and cardiac disorders.
011827	RES 4131	A	Patient Care Simulations	RESP 4131	Clinical simulations designed to enhance critical thinking skills in patient assessment, airway management, development of plan of care and management of a critically ill respiratory care patient.
011825	RES 4133	A	PFCC	RESP 4133	Introduction to patient- and family-centered care. Emphasis on the importance of interprofessional teams and patient and family advisors to provide high quality, low cost health care.
012340	RES 4140	A	Legal and Ethical Issues	RESP 4140	A review of basic legal and ethical principles which serve as a foundation for interprofessional clinical practice.
011259	RES 4144	INV	Scholarship Project	RESP 4244	Introduction to the application of scientific research methods
012341	RES 4146	A	Respiratory Care Ed.	RESP 4146	An overview of the basic concepts and principles in respiratory care education. Emphasizes practical aspects of planning, implementing and evaluating student learning.
011647	RES 4151	INV	CRC in Alternate Sites	RESP 4258	
007080	RES 4154	INV	Clinical Capstone I	RESP 4258	
011257	RES 4241	A	Adv Asses. & Diag.	RESP 4241	Advanced cardiopulmonary assessment and diagnostic procedures and practices.
011258	RES 4243	A	Pediatric Cardiopulmonary Care	RESP 4243	Study of pediatric respiratory care with emphasis on: physiology, cardiopulmonary disorders, assessment evaluation, monitoring, and modalities of treatment. The laboratory will focus on pediatric critical care equipment function, maintenance and use and guided practice prior to clinical experiences. Pediatric Advanced Life Support (PALS) certification required.
012700	RES 4244	A	Scholarship Project	RESP 4244	Introduction to the application of scientific research methods
011295	RES 4250	A	Integration Project	RESP 4250	Integration of respiratory care course work, focused on a case study.
000239	RES 4255	A	Res Care Seminar	RESP 4255	Review of respiratory care as it pertains to credentialing examination administered by the National Board for Respiratory Care (NBRC) and other agencies that offer specialty credentials of interest to the respiratory therapist.
008657	RES 4257	A	Lit Review in CRC	RESP 4257	Discussion of advanced theory and application of cardio-respiratory care as found in the professional literature. Prerequisite: RESP 4330.
009916	RES 4258	A	Clinical Capstone I	RESP 4258	
011826	RES 4330	A	Research & Evaluation	RESP 4330	An introduction to the methods of scientific research and evaluation.
000230	RES 4341	INV	Adv Assmt & Diag	RESP 4241	Advanced cardiopulmonary assessment and diagnostic procedures and practices.
000231	RES 4342	A	Crit Care Pract	RESP 4342	Special techniques, case studies and pathological complications associated with the critically ill patient; emphasis on the care of the cardiac and trauma patient.
011309	RES 4352	INV	Capstone II	RESP 4652	
011306	RES 4354	INV	Disease Management	RESP 4452	Introduction to chronic disease management.
012405	RES 4355	A	Leadership & Mgmt	RESP 4355	Basic concepts, principles, and practices necessary for effective supervision and leadership in a health care environment.
011778	RES 4356	A	Clin Intern II	RESP 4356	Continuation of Clinical Practicum III; includes alternate care site and additional critical care practices and procedures.
000234	RES 4445	A	Clin Pract III	RESP 4445	A continuation of Clinical Practicum II; includes neonatal and diagnostic procedures and practices.
012406	RES 4452	A	Disease Mgmt	RESP 4452	Introduction to chronic disease management.
011828	RES 4652	A	Capstone II	RESP 4652	

011873	RES 4653	A	Bachelor's Thesis	RESP 4653	The Bachelor's thesis is implemented, evaluated, and evidenced-based recommendations are disseminated. Prerequisite: RESP 4248.
012730	RESP 4248	A	BS Thesis Proposal	RESP 4248	Planning the Bachelor's thesis, practicum, research project or scholarly activity. Pre-requisites include RESP 4330 and 4257.
011277	RIS 4281	INV	Geriatric Imaging	RISP 4381	Imaging of special populations can be challenging. This course is designed to discuss various populations and the imaging techniques needed for them.
011313	RIS 4291	INV	Current Issues in Hth Car	RISP 4394	An emphasis on the critical evaluation of ethical, legal, and economic problems associated with health care delivery.
011553	RIS 4323	A	Emergency Preparedness	RISP 4323	
012373	RIS 4375	A	Mammo Fundamentals	RISP 4375	The study of mammographic fundamentals includes a detailed introduction to equipment and instrumentation, methods for producing quality images, breast anatomy and physiology, and breast pathology.
012416	RIS 4376	A	Mammo Proc & Tech	RISP 4376	This course focuses on advanced mammographic imaging, diagnostic procedures, and breast cancer treatments. Emphasis is placed upon current and upcoming technologies, quality control, and patient care during intensive situations.
011561	RIS 4377	A	Cardiac Interven I	RISP 4377	Advanced cardiac angiographic procedures performed using angiographic equipment. This course includes an in-depth study of cardiac imaging equipment, the use of sterile technique and supplies, the study of pharmacology, vascular access, cardiac anatomy and cardiac hemodynamics.
011562	RIS 4378	A	Cardiac Interven II	RISP 4378	Advanced cardiac angiographic procedures performed using angiographic equipment. This course includes an in-depth study of cardiac anatomy, cardiac hemodynamics, diagnostic cardiac catheterization, cardiac interventional procedures, cardiac pathologies, and a brief introduction to electrophysiology.
011727	RIS 4381	A	Imaging of Spec Populat	RISP 4381	Imaging of special populations can be challenging. This course is designed to discuss various populations and the imaging techniques needed for them.
011314	RIS 4382	A	Adv. Patient Care	RISP 4382	A study of advanced patient care skills emphasizing the cardiovascular and respiratory systems.
010753	RIS 4386	A	Physics of Computed Tomog	RISP 4386	A study of the instrumentation of computed tomography, computed tomographic image formation, and radiation dose and safety concerns.
010754	RIS 4387	A	Computed Tomographic Proc	RISP 4387	A study of computed tomographic procedures of the head, neck, vertebral column, chest, extremities, abdomen, and pelvis. Anatomy, positioning, scanning procedures, post-processing procedures, and patient care are emphasized.
010756	RIS 4392	A	Phys of Magnetic Res. Ima	RISP 4392	A study of the instrumentation of magnetic resonance imaging, magnetic resonance image formation, and magnetic field safety concerns.
010757	RIS 4393	A	Mag. Resonance Imag. Proc	RISP 4393	A study of magnetic resonance imaging procedures of the head, neck, vertebral column, chest, extremities, abdomen, and pelvis. Anatomy, positioning, scanning procedures, post-processing procedures, and patient care are emphasized.
011630	RIS 4394	A	Current Issues	RISP 4394	An emphasis on the critical evaluation of ethical, legal, and economic problems associated with health care delivery.
011738	RIS 4395	A	Vascular Intervention I	RISP 4395	Advanced vascular angiographic procedures performed using angiographic equipment. This course includes an in-depth study of vascular imaging equipment, cerebral angiography, abdominal visceral angiography, and upper and lower extremity angiography.
011676	RIS 4396	A	Vascular Intervention II	RISP 4396	Advanced vascular angiographic procedures performed using angiographic equipment. This course includes an in-depth study of pulmonary and thoracic angiography, cardiac catheterization, the venous system, and non-vascular special procedures.
010765	RIS 4398	A	Managerial Leadership	RISP 4398	Basic principles and practices necessary for effective supervision and leadership in a health care environment. Includes principles and practices in human resource management in health care settings.
010766	RIS 4399	A	Rsch in Radiologic Scienc	RISP 4399	An introduction to research in the radiologic sciences, including literature review, research design, methodology, data collection, scientific writing, and research publications.
011629	RIS 4579	A	Cardia Intv. Practicum	RISP 4579	Supervised clinical experience in cardiovascular interventional imaging.
010752	RIS 4585	A	Mammography Practicum	RISP 4585	Supervised clinical experience in mammography.
010755	RIS 4588	A	CT Practicum	RISP 4588	Supervised clinical experience in computed tomography.
010758	RIS 4594	A	MRI Practicum	RISP 4594	Supervised clinical experience in magnetic resonance imaging.
011554	RIS 4597	A	Vas Imag Prac	RISP 4597	Supervised clinical experience in vascular interventional imaging.
011362	RN 3301	INV	Orientation for Adv Plcmt	NURS 4131	Orientation reviews information specific to the UAMS College of Nursing (CON) programs and the UAMS academic environment. The electronic classroom and the use of blackboard management system are explained. Pre-requisite: Admission to the RN-BSN program.
012559	RN 3302	A	Orientation	NURS 4131	Orientation reviews information specific to the UAMS College of Nursing (CON) programs and the UAMS academic environment. The electronic classroom and the use of blackboard management system are explained. Pre-requisite: Admission to the RN-BSN program.
011364	RN 4403	INV	Intro to Research	NURS 4132	Introduction to Research and Evidence-based Practice provides an introduction to research methodology, critical appraisal of research literature, application of findings to nursing practice, and identification of clinical problems for study. Pre- or Co-requisite: NURS 4131
012451	RN 4413	A	IntroRschrEvdncPract	NURS 4132	Introduction to Research and Evidence-based Practice provides an introduction to research methodology, critical appraisal of research literature, application of findings to nursing practice, and identification of clinical problems for study. Pre- or Co-requisite: NURS 4131
011365	RN 4415	INV	Community & PH Nsg Th & P	NURS 4133	Community Health Nursing focuses on an analysis of the nursing role as it relates to population based health. Pre- or Co-requisite: NURS 4131.
012650	RN 4422	A	Cult Comp in Nursing	NURS 4235	Cultural Competency in Nursing addresses human differences, biases, and stereotypes to provide culturally competent nursing care. Pre- or Co-requisite: NURS 4131
012450	RN 4423	INV	Cult. Comp. in Nursing	NURS 4235	Cultural Competency in Nursing addresses human differences, biases, and stereotypes to provide culturally competent nursing care. Pre- or Co-requisite: NURS 4131
012449	RN 4433	A	Nursing Informatics	NURS 4236	Nursing Informatics is an introduction to computers and nursing informatics focusing on applications to the nursing profession and healthcare system. Pre- or Co-requisite: NURS 4131.
011366	RN 4435	INV	Nsg Leadrshp & Mgmt	NURS 4135	Nursing Leadership and Management integrates concepts of leadership, management, communication, delegation, conflict resolution, ethics, and organizational structure. Pre- or Corequisite: NURS 4131
012560	RN 4442	A	Professional Issues	NURS 4238	Professional Issues identifies the knowledge and skills needed to enhance professional nursing practice. The course examines current issues and ethical dilemmas impacting the nursing profession. Pre- or Co-requisite: NURS 4131.
012448	RN 4453	A	Comm Health Nursing	NURS 4133	Community Health Nursing focuses on an analysis of the nursing role as it relates to population based health. Pre- or Co-requisite: NURS 4131.

011367	RN 4455	INV	Nsg Car Oldr Adt Th & Pr	NURS 4134	Nursing Care of Older Adults addresses developmental tasks and responses to changes in health status. Nursing process is applied to the care of diverse older adult patients and families. Pre- or Co-requisite: NURS 4131.
012561	RN 4463	A	Nursing Care Older Adults	NURS 4134	Nursing Care of Older Adults addresses developmental tasks and responses to changes in health status. Nursing process is applied to the care of diverse older adult patients and families. Pre- or Co-requisite: NURS 4131.
012452	RN 4473	A	Nrsg Ldrshp & Mgmt	NURS 4135	Nursing Leadership and Management integrates concepts of leadership, management, communication, delegation, conflict resolution, ethics, and organizational structure. Pre- or Corequisite: NURS 4131
012759	RN 4483	A	Capstone I for RN	NURS 4930	Capstone I provides the RN-BSN student with an opportunity to synthesize and apply knowledge of the concepts learned throughout the program. Pre-requisites: All RN-BSN or RN-MNSc Courses.
012755	RN 4493	A	Capstone II for RN	NURS 4931	Capstone II provides the RN-BSN student with an opportunity to synthesize and apply knowledge of the concepts throughout the program. Pre-Requisites: All RN-BSN or RN-MNSc coursework. Co-requisite: NURS 4930 Capstone I.
012557	RN 4983	INV	Capstone I for RN	NURS 4930	Capstone I provides the RN-BSN student with an opportunity to synthesize and apply knowledge of the concepts learned throughout the program. Pre-requisites: All RN-BSN or RN-MNSc Courses.
012558	RN 4993	INV	Capstone II for RN	NURS 4931	Capstone II provides the RN-BSN student with an opportunity to synthesize and apply knowledge of the concepts throughout the program. Pre-Requisites: All RN-BSN or RN-MNSc coursework. Co-requisite: NURS 4930 Capstone I.
008796	RS 4255	INV	Res Care Seminar	RESP 4255	Review of respiratory care as it pertains to credentialing examination administered by the National Board for Respiratory Care (NBRC) and other agencies that offer specialty credentials of interest to the respiratory therapist.
011254	SPED 7301	A	UALR: Foundation Spec Ed	SPED 7301	This course surveys the foundations of educational programs for students with disabilities, emphasizing the historical, philosophical, and legal aspects of special education. Course work includes surveys of the characteristics and needs of students with various disabilities.
011311	SPED 7305	A	UALR: Managing Learning Env	SPED 7305	Theory, research, and application for behavioral management. Current issues and research in applied behavioral analysis and other forms of classroom management; cognitive behavioral and emerging management procedures, emphasis on application of research.
010832	ST 2314	INV	Surg Anat & Pathophys	SURG 2313	Emphasis on the anatomical structures of those body regions in which surgery is most commonly performed and the diseases related to the surgical patient.
011086	SUT 2112	INV	Med Terminology	SURG 2312	Introduction to commonly used medical abbreviations and terminology used in the health care setting. Includes prefixes, suffixes, and root words.
001127	SUT 2123	A	Prof Certificatn Sem	SURG 2123	Preparation for the Certification Examination for the Surgical Technology profession.
011093	SUT 2126	INV	Perioperative Pract	SURG 2222	An overview of surgical technology as a health care profession. Explores standards of care, criteria for professional growth, psychological aspects of the patient including social and cultural dimensions, and the ethical and legal issues surrounding the profession.
001128	SUT 2211	A	Bas ORT Tech I Lab	SURG 2211	Fundamental procedures of perioperative patient care. Guided practice prior to clinical experiences. Must be taken concurrently with SURG 2510: Basic Operating Room Techniques.
001129	SUT 2215	A	Clin Practicum I	SURG 2215	Supervised clinical experience in the application of basic patient care procedures, safe practice, and beginning skills of sterilization/disinfection and aseptic technique. Prerequisite: Successful completion of competency evaluation in SURG 2211.
010824	SUT 2217	INV	Clinical Practicum I	SURG 2215	Supervised clinical experience in the application of basic patient care procedures, safe practice, and beginning skills of sterilization/disinfection and aseptic technique. Prerequisite: Successful completion of competency evaluation in SURG 2211.
001130	SUT 2221	A	Pharm for Surg Tech	SURG 2221	Introduction to the classification, actions, and uses of drugs. Emphasis on drugs associated with various surgical, obstetrical, and emergency care procedures. Includes calculation of dosages and drug preparation.
001131	SUT 2222	A	Perioperative Prac	SURG 2222	An overview of surgical technology as a health care profession. Explores standards of care, criteria for professional growth, psychological aspects of the patient including social and cultural dimensions, and the ethical and legal issues surrounding the profession.
010828	SUT 2226	INV	Perioperatv Pract	SURG 2222	An overview of surgical technology as a health care profession. Explores standards of care, criteria for professional growth, psychological aspects of the patient including social and cultural dimensions, and the ethical and legal issues surrounding the profession.
011199	SUT 2231	A	Clin Practicum III	SURG 2232	Four (4) week clinical course work in all subspecialty areas of the operating room at the advanced level. Prerequisites: SURG 2215, SURG 2523.
001133	SUT 2312	A	Med Terminology	SURG 2312	Introduction to commonly used medical abbreviations and terminology used in the health care setting. Includes prefixes, suffixes, and root words.
001134	SUT 2313	A	Surg Pathophysiol	SURG 2313	Emphasis on the anatomical structures of those body regions in which surgery is most commonly performed and the diseases related to the surgical patient.
001136	SUT 2410	INV	Basic OR Techniq	SURG 2510	Orientation to surgical technology with emphasis on the fundamental principles of basic patient care concepts, asepsis and the surgical environment, and basic case preparation and procedures before, during and after a surgical procedure.
001137	SUT 2425	A	Clin Practicum II	SURG 2523	Supervised clinical experience in the application of basic, intermediate, and advanced surgical procedures, and a continuation of aseptic technique and sterilization/disinfection skills.
010738	SUT 2510	A	Basic Operating Room Tech	SURG 2510	Orientation to surgical technology with emphasis on the fundamental principles of basic patient care concepts, asepsis and the surgical environment, and basic case preparation and procedures before, during and after a surgical procedure.
001138	SUT 2520	A	Adv OR Techniq	SURG 2520	Emphasis placed on specialty surgical procedures and instrumentation.
010826	SUT 2523	INV	Clinical Practicum II	SURG 2523	Supervised clinical experience in the application of basic, intermediate, and advanced surgical procedures, and a continuation of aseptic technique and sterilization/disinfection skills.