

New Course Requests

AGEC 613. International Agricultural Development Policy. (3-0). Credit 3. This course, the capstone for the certificate in International Agriculture and Nature Resource Management, may be taken with many majors. Its many real-world examples prepare students for environments of international development institutions and programs concerning water management, gender, climate change agricultural extension, value chains, agricultural finance, and many other issues in developing countries, with emphasis on smallholder agriculture. Prerequisite(s): One of the following: AGECE 422, 430, or other equivalent Macroeconomic Course 452, 604, 606.

BICH 656. RNA Biology. (3-0). Credit 3. Emphasis on newly discovered RNA-mediated processes and regulation; range of topics in modern RNA biology include RNA silencing, RNA-guided epigenetic regulation, CRISPR/Cas immunity and genome editing, telomerase biogenesis, riboswitches, exosome and editosome as well as the application of RNA biology in medicine and biotechnology. Prerequisite(s): BICH 301/302. Stacked with: BICH 489 RNA Biology.

CHEN 646. Thermodynamics of Oil and Gas and Water Systems. (3-0). Credit 3. Techniques to predict the thermodynamic properties of oil and gas and aqueous saline systems; characterization of petroleum fluids; effect of surface tension and confinement; gas hydrate formation, and thermodynamic models for aqueous electrolyte systems and their application to phase equilibrium calculations. Prerequisite(s): CHEN 623 or approval of instructor.

CHEN 656. Advanced Process Chemical Optimization. (3-0). Credit 3. Course covers state-of-the-art optimization based techniques for process synthesis, process design and process operability; emphasis is placed on mathematical modeling via mixed integer and continuous optimization formulations and their application to heat integration problems; will learn how to use a modeling/optimization software systems. Prerequisite(s): Graduate level classification; or approval of instructor. Stacked with: CHEN 456.

CHEN 676. Sustainable Design through Process Integration. (3-0). Credit 3. Systematic and state-of-the-art techniques for the sustainable design of chemical processes; emphasis on holistic and systematic approaches using process integration for the conservation of natural resources and the enhancement of process performance; a variety of visualization, algebraic, and mathematical optimization approaches are presented. Prerequisite(s): Graduate Classification or Approval of instructor.

ICPE 681. Seminar. (2-0). Credit 2. Seminars and presentations on important developments and current research in energy; delivery by distinguished energy experts from academia, industry, and government. Prerequisite(s): Graduate classification.

MEEN 647. Fundamentals of Energy Storage. (3-0). Credit 3. Fundamental concepts of energy storage; fundamentals of mechano-physicochemical mechanisms and interactions that underlie electrodes in an energy storage system (e.g. battery, supercapacitor); thermodynamics, kinetics and transport phenomena of species and charge, thermal and mechanical behavior; performance, degradation and safety of such systems based on the aforementioned fundamental mechanisms. Prerequisite(s): Graduate level.

MEEN 654. Tribology. (3-0). Credit 3. History and significance of tribology, rough surfaces, hertzian contact, rough surfaces in contact, friction of surfaces in contact, surface failures/wear, boundary lubrication, fluid properties, thick film lubrication, thin film lubrication, micro and nano – tribology.

Prerequisite(s): Graduate classification. Stacked with: MEEN 454.

MEEN 670. Compressible Flow. (3-0). Credit 3. Compressible flow (also known as gas dynamic and/or high speed aerodynamics); gas flows at high enough Mach number wherein the fluid can no longer be assumed incompressible; aerospace and mechanical engineering applications ranging from external aerodynamics to internal flows for applications such as propulsion and airframe designs for jets, rockets, missiles, and many other devices; supersonic flows; shock waves; expansion waves; shock tubes; supersonic wind tunnels; gas flows with friction ; gas flows with heat transfer. Prerequisite(s): MEEN 344. Stacked with: MEEN 472.

NURS 601. Foundations of Forensic Healthcare. (2-0). Credit 2. Legal, ethical, clinical and advocacy responsibilities of responders and providers; forensics medical terminology; mechanisms of injury and death; identification of intentional and non-intentional wounds; scientific and medico-legal investigation of suspicious injury and death; introduction to written and photographic documentation of findings; judicial system overview. Prerequisite(s): Graduate classification. Cross-Listed with: FORS 601.

NURS 602. Victimology: Clinical implications and Applications. (3-0). Credit 3. Comprehensive examination of human responses to victimization resulting in physical and psychological trauma; interpersonal violence as a public health issue; overview of intentional injury, neglect, abuse, and exploitation throughout the lifespan; process of seeking justice for victims; characteristics and motivational issues related to perpetrators of violence; transitioning patterns from role of victim to survivor including secondary effects of victimizations; theoretical and evidence-based approaches to assessment; documentation of victims and perpetrators of violence. Prerequisite(s): Graduate classification; FORS 601 or NURS 601. Cross-listed with: FORS 602.

NURS 603. Justice Today, Prevention Tomorrow. (3-0). Credit 3. In-depth analysis of the role of the trauma specialist within the criminal and civil court system; critical collaboration between representatives of the healthcare system, investigative systems and the legal system in seeking justice for victims of violence; investigative processes involving trauma, injury and death; methods of evidence collection and preservation in the trauma/emergency department and other settings; public health perspective of interpersonal violence and prevention; social-ecological model of primary prevention; factors placing individuals at risk for violence; batter/anti-bullying intervention programs. Prerequisite(s): Graduate classification; FORS 601 and FORS 602 or NURS 601 and NURS 602. Cross-listed with: FORS 603.

NURS 604. Advanced Trauma Assessments and Injury Pathology. (3-1). Credit 3. In-depth review of injury pathology, advanced trauma assessments and diagnosis of physical and psychological injuries across the lifespan; biomechanical and forensics of sharp, blunt, thermal, penetrating, and mixed injuries; methods so differentiate between intentional versus unintentional injuries; diseases and physical findings mimicking abuse; physiology of wound healing; biomechanics and pathophysiology of bruising; bruise resolution and similarities and differences with/from ecchymoses; pressure ulcer formation, healing and treatment; cutaneous injury prevention. Prerequisite(s): Graduate classification; NURS 601, NURS 602, NURS 603. Cross-listed with: FORS 604.

NURS 610. Forensics Sexual Assault Examiner Course. (3-0). Credit 3. Roles and responsibilities; legal definitions; expert witness testimony; nurse advocacy; motivations of perpetrators to offend; obtaining historical account of sexual assault using interview techniques; appropriate methods of documentation; METALA; head-to-toe assessment; injury documentation; anatomy of female and male sexual organ;

evidence collection kit; treatment of STDs; Pregnancy prophylactic treatment; role of advocates and advocacy centers; communication skills; vicarious victimization; civil and criminal trial procedures. . Prerequisite(s): Graduate classification. Cross-listed with: FORS 610.

NURS 611. Application of Clinical Pharmacology of Victims of Violence. (1-0). Credit 1. Drug-facilitated sexual assault; pharmacological treatment of STDs and pregnancy prophylaxis; pharmacological treatment for individuals with existing drug addiction; patient safety and compliance; methods to assess for current drug abuse; types of date-rape drugs and their actions. Prerequisite(s): None. Cross-listed: FORS 611.

NURS 612. Human Trafficking. (1-0). Credit 1. Forms of trafficking; Trafficking Victims Protection Act; involuntary servitude, peonage, debt bondage; recruitment and transportation; bio-psycho-social impact; human trafficking and the internet; identification and investigation of trafficked individuals; trafficking across U.S. borders. Prerequisite(s): Graduate classification. Cross-listed with: FORS 612.

NURS 613. Forensic Photography. (1-0). Credit 1. Fundamentals of photographic documentation of injuries sustained drug a crime; camera and equipment selection; camera skills; forensic photography techniques; supporting documentation; data management; victim rights. Prerequisite(s): Graduate classification. Cross-listed with: FORS 613.

NURS 614. Policy and Ethics of Interpersonal Violence. (1-0). Credit 1. Overview of policies and ethical considerations that inform forensics healthcare practice and procedures; identification, discussion, and analysis of federal, state, and local policies; regulation of professional practice; scopes and standards of practice; policy and legislation regarding victim populations; ethical standards for health professionals working with victims. Prerequisite(s): Graduate classification. Cross-listed with: FORS 614.

NURS 615. Forensic Mental Health. (1-0). Credit 1. Examination of mental health issues relevant to forensic healthcare; forensic mental health roles; determination of diminished capacity and competence to stand trial; mental health risk factors and outcomes associated with both crime perpetration and victimization; addiction and crime; ethical issues associated with crime and mental health. Prerequisite(s): Graduate classification. Cross-listed with: FORS 615.

STAT 667. Advanced Spatial Statistics. (3-0). Credit 3. Spatial statistics from an advanced perspective; Gaussian processes; Gaussian Markov random fields; positive definite functions; nonstationary and multivariate process; hierarchical spatial models; measurement error; change of support; computational approaches for large spatial datasets; spatio-temporal statistics Prerequisite(s): STAT 612, STAT 613, STAT 632.

WFSC 626. Ecological Risk Assessment. (3-0). Credit 3. Approaches used to identify, evaluate, and manage ecological risks of chemicals on aquatic and terrestrial environments; emphasis on methods useful to assess effects of contaminants on ecosystems; testing techniques, site assessment and monitoring procedures, regulatory requirements and field and laboratory techniques. Prerequisite(s): N/A

Course Change Requests

ECEN 762: Advanced Ultrasound imaging Techniques

Course Description/Title

From:

ECEN 762 Ultrasound Imaging – Covers mathematical analysis of wave propagation, scattering of ultrasound in biological tissues, electronic transducer arrays for the beam forming, models of the received signals and signal processing methods for medical ultrasound imaging of tissues. Research papers related to fundamental ultrasound imaging concepts are discussed throughout the course. Prerequisite: Approval of Instructor

To:

ECEN 762 Advanced Ultrasound Imaging Techniques – Fundamental concepts at the basis of ultrasound imaging including: mathematical analysis of wave propagation, scattering of ultrasound in biological tissues, electronic transducer arrays for the beam forming, models of the received signals and signal and image processing methods for medical ultrasound imaging of tissues; focus on the fundamental understanding of advanced ultrasound imaging methods and techniques and their applications; State-of-the-art ultrasound imaging techniques that will be covered include: ultrasound contrast agents and harmonic imaging, 3D and 4D imaging, advanced Doppler imaging methods, 2D arrays, C-MUT and HIFU technologies. Performance will be assessed by means of one midterm exam, one final exam and one final project.

GENE 608: Critical Analysis of GENE Literature

Course Description

From:

Critical Analysis of GENE Literature to primary literature in the field of genetics which will give students experience in critically evaluating scientific papers and develop an appreciation of how genetics can be used to address important biological questions.

To:

Critical Analysis of Genetic Literature Introduction to Major Genetic Model Systems (MSs).

GENE 613: Quantitative Genetics I

Prerequisite(s)

To:

GENE 612; STAT 652

From:

STAT 651

STAT 647: Spatial Statistics

Prerequisite(s)

From:

STAT 601 or STAT 611 or equivalent

To:

STAT 630 or STAT 611 or equivalent

Special Consideration

College of Nursing

Master of Science in Nursing in Forensic Nursing