BIOMEDICAL SCIENCES AND ENGINEERING (BSE)

BSE Class Schedule (https://courses.illinois.edu/schedule/DEFAULT/DEFAULT/BSE)

Courses

BSE 612 Foundations: Molecules to Populations credit: 13 Hours. (https://courses.illinois.edu/schedule/terms/BSE/612)
This course, which covers the fundamental elements of medical science, serves as a baseline for the rest of the medical school curriculum. Topics to be covered include foundational anatomy, cell biology, histology, physiology, integration of engineering science, systems, microbiology, pharmacology, genetics, and behavioral science, concepts of populations, social behavior, chronic disease, health care team, patient safety, statistics, big data, Patient-Centered Medical Home, palliative care, quality, compensation, and mobile health technologies. No graduate credit. 13 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 631 Cardiovascular credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/BSE/631)
Topics include ischemic heart Dx, cardiomyopathy/CHF, aortic stenosis, atrial fibrillation, peripheral vascular disease, pediatric ASD. No graduate credit. 4 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 632 Respiratory credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/BSE/632)
Topics include asthma -- peds, COPD, Pulmonary Fibrosis, Respiratory failure, pulmonary vasculitis. No graduate credit. 3 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 633 Renal credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/BSE/633)
Topics include UTI with pyelonephritis, urinary obstruction-BPH, acute renal failure-toxic, chronic renal failure-DM, polycystic renal disease-peds. No graduate credit. 3 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 634 Clinical Neuroscience credit: 5 Hours. (https://courses.illinois.edu/schedule/terms/BSE/634)
Topics include neurovascular disorders, seizures, brain injury, dementia, tumors of the brain, disorders involving neuroinflammation, psychotic disorders, affective disorders, anxiety disorders, as well as disorders of the peripheral nervous system and neuromuscular junction. No graduate credit. 5 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 635 Musculoskeletal credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/BSE/635)
Topics include primary inflammatory diseases such as rheumatoid arthritis, lupus, polymyalgia rheumatica and associated disorders, degenerative diseases of the joints such as osteoarthritis, primary diseases of muscle, primary diseases of bone such as osteoporosis and osteogenesis imperfecta as well as mechanical trauma to bone leading to fracture. No graduate credit. 4 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 636 Digestion credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/BSE/636)
Topics include GERD with stricture/Barretts, Crohn's disease, peptic ulcer disease with hemorrhage, chronic diarrhea, pyloric stenosis -- peds hepatitis C, colonic polyposis No graduate credit. 3 professional hours. Approved for S/U grading only. Prerequisite: Restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 637 Nutrition & Metabolism credit: 2 Hours. (https://courses.illinois.edu/schedule/terms/BSE/637)
Topics include diabetes -- type II, ketoacidosis, hypothyroidism, hyperthyroidism, adrenal insufficiency. Cushing's syndrome, diabetes insipidus. No graduate credit. 2 professional hours. Approved for S/U grading only. Prerequisite: Restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 638 Endocrinology credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/BSE/638)
Topics include diabetes -- type II, ketoacidosis, hypothyroidism, hyperthyroidism, adrenal insufficiency. Cushing's syndrome, diabetes insipidus. No graduate credit. 3 professional hours. Approved for S/U grading only. Prerequisite: Restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 639 Genitourinary credit: 2 Hours. (https://courses.illinois.edu/schedule/terms/BSE/639)
Topics include hypogonadism, erectile dysfunction, testicular torsion, infertility, sexual orientation, BPH. No graduate credit. 2 professional hours. Approved for S/U grading only. Prerequisite: Restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 640 Women's Health credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/BSE/640)
Topics include dysmenorrhea, menorrhagia, polycystic ovarian disease, cervical dysplasia, menopause -- vasomotor, pelvic pain. No graduate credit. 3 professional hours. Approved for S/U grading only. Prerequisite: Restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 641 Obstetrics credit: 2 Hours. (https://courses.illinois.edu/schedule/terms/BSE/641)
Topics include normal delivery, breach, multiple gestation, medical illness of pregnancy -- diabetes, placenta previa. No graduate credit. 2 professional hours. Approved for S/U grading only. Prerequisite: Restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 642 Hematology & Oncology credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/BSE/642)
Topics include lung cancer, colon cancer, breast cancer, renal cancer, prostate cancer, pancreatic cancer, iron deficiency anemia, sickle cell anemia, lymphoma- non-Hodgkin, acute myelocytic leukemia, chronic lymphocytic leukemia, idiopathic thrombocytopenia. No graduate credit. 3 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

Information listed in this catalog is current as of 03/2020
BSE 643  **Infection & Immunity**  credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/BSE/643](https://courses.illinois.edu/schedule/terms/BSE/643))
Topics include pneumonia, sepsis UTI – pyelonephritis, cellulitis, HIV anaphylaxis, allergic dermatitis, myocarditis encephalitis. No graduate credit. 3 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to students enrolled in the MD program at Carle Illinois College of Medicine.

BSE 645  **Synthesis & Summary**  credit: 6 Hours. ([https://courses.illinois.edu/schedule/terms/BSE/645](https://courses.illinois.edu/schedule/terms/BSE/645))
This course will review critical concepts in the areas of Behavioral Science, Biochemistry, Cells and Tissues, Human Development and Genetics, Microbiology, Immunology, Pathology, and Pharmacology, Population Health. The course will be organized around the major organ systems: Blood and Lymphoreticular System, Cardiovascular, Endocrine, Gastrointestinal, Hematology and Oncology, Musculoskeletal, Neurology, Psychiatry, Renal, Reproductive, Respiratory, Skin and Subcutaneous Tissue. No graduate credit. 6 professional hours. Approved for S/U grading only. Prerequisite: This course is restricted to Carle Illinois College of Medicine Students.

BSE 650  **Global Studies/Service Learning Elective**  credit: 1 to 4 Hours. ([https://courses.illinois.edu/schedule/terms/BSE/650](https://courses.illinois.edu/schedule/terms/BSE/650))
This course will engage the student in interdisciplinary studies or projects and demonstrate understanding of complex global events and processes of globalization. Students will learn about issues and problems in health care from a global perspective. No graduate credit. 1 to 4 professional hours. Approved for S/U grading only. May be repeated to a maximum of 28 hours. Prerequisite: This course is restricted to Carle Illinois College of Medicine students.

BSE 655  **Research Elective**  credit: 1 to 16 Hours. ([https://courses.illinois.edu/schedule/terms/BSE/655](https://courses.illinois.edu/schedule/terms/BSE/655))
The goal of this course is to introduce the students to the foundations of selected multi-disciplinary research in medical/engineering field. Students will learn about the purpose for research; identifying researchable issues; finding, evaluating, and using sources effectively; recognizing methods associated with different types of data and disciplines; and writing a literature review. No graduate credit. 1 to 16 professional hours. Approved for S/U grading only. May be repeated up to 16 hours in the same semester, to a maximum of 64 hours in separate semesters. Prerequisite: This course is restricted to Carle Illinois College of Medicine students.

BSE 660  **Self-Designed Study**  credit: 1 to 16 Hours. ([https://courses.illinois.edu/schedule/terms/BSE/660](https://courses.illinois.edu/schedule/terms/BSE/660))
Students will develop skills and gain experience working collaboratively with other professional through a self-designed study. Develop a self-guided study when students have an interest in an intellectual issue that is best studied through an integrative approach based in multiple academic disciplines. This course will introduce the student to a selected multi-disciplinary study or project in the medical/engineering field, addresses appropriate methodology, provides opportunities for advanced level research or other creative projects, and culminates in an integrative experience. It must be arranged between the student and an individual faculty member or external collaborator, and subsequently approved by the dean of Academic Affairs. No graduate credit. 1 to 16 professional hours. Approved for S/U grading only. May be repeated up to 16 hours in the same semester to a maximum of 32 hours over separate semesters. Prerequisite: This course is restricted to Carle Illinois College of Medicine students.

BSE 665  **Special Topics**  credit: 1 to 4 Hours. ([https://courses.illinois.edu/schedule/terms/BSE/665](https://courses.illinois.edu/schedule/terms/BSE/665))
Subject offerings of new and developing areas of knowledge in medicine intended to augment the existing curriculum. No graduate credit. 1 to 4 professional hours. Approved for S/U grading only. May be repeated to a maximum of 16 hours in the same or subsequent semesters. Prerequisite: This course is restricted to Carle Illinois College of Medicine students.

BSE 666  **CIMED Academic Progress I**  credit: 0 Hours. ([https://courses.illinois.edu/schedule/terms/BSE/666](https://courses.illinois.edu/schedule/terms/BSE/666))
This course provides students with an opportunity to demonstrate core medical skills. The course includes assessment of students’ understanding of clinical skills, professionalism, and medical knowledge (includes organ system: Blood and Lymphoreticular System, Cardiovascular, Endocrine, Gastrointestinal, Hematology and Oncology, Musculoskeletal, Neurology, Psychiatry, Renal, Reproductive, Respiratory, Skin and Subcutaneous Tissue). No graduate credit. 0 professional hours. Approved for S/U grading only.

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