The University of Illinois at Urbana-Champaign Doctor of Medicine (MD) program is conducted on the Urbana Campus in the Carle Illinois College of Medicine. The college offers a professional, four-year MD degree program that integrates engineering concepts with the traditional pillars of medicine, namely the basic health sciences and clinical training, and prepares students for postgraduate medical education programs. This curriculum produces students who are trained and equipped to incorporate analytical and quantitative techniques, modeling and computation, innovation, and human systems approaches to advancing and delivering high quality healthcare. The curriculum emphasizes professional, compassionate, and ethical care and the utilization of team-based approaches to transform healthcare delivery and improve healthcare outcomes through the continuum of care: preventive medicine through acute care. In addition to required courses, elective rotations provide opportunities for students to explore specialized areas of interest. The educational program spans four (4) years. Students are exposed to extensive clinical training, professional development and scientific and engineering education through a case-driven active learning curriculum.

The college selects applicants with the best combination of academic and extracurricular achievement, maturity, integrity, and motivation. Selection of students is based on an assessment of all available data and an evaluation of skills and aptitude. The quality of work in all subject areas is considered, with an emphasis on quantitative methods, breadth of education, and experiences that demonstrate initiative, creativity and interest in compassionate patient care.

For more information about the University of Illinois at Urbana-Champaign MD program, including Admissions, Financial Aid, and the Curriculum, please consult http://medicine.illinois.edu/.

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

**Biomedical Sciences Engr Courses**

**BSE 611 Orientation** credit: 1 Hour. (https://courses.illinois.edu/schedule/terms/BSE/611)

This course examines life skills for medical school: sleep, nutrition, understanding self, emotional intelligence, new vocabulary, clinical reasoning, thinking like a doctor and an engineer, resource review, problem solving, design, future patient care, systems, regulations. No graduate credit. 1 professional hour. Approved for S/U grading only.

**BSE 612 Foundational Elements** credit: 10 Hours. (https://courses.illinois.edu/schedule/terms/BSE/612)

This course covers the fundamental elements of medical science. The course 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. No graduate credit. 10 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 613 Population Health** credit: 2 Hours. (https://courses.illinois.edu/schedule/terms/BSE/613)

This course covers a range of topics including concepts of populations, social behavior, chronic disease, health care team, patient safety, statistics, big data, PCMH, palliative care, quality, compensation, and mobile health technologies. No graduate credit. 2 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.

Information listed in this catalog is current as of 08/2018
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 malabsorption syndrome, vitamin D deficiency, G6PD deficiency, TPN, obesity. 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.

CLE 611  Clinical Integration I  credit: 6 Hours. (https://courses.illinois.edu/schedule/terms/CLE/611)
This course examines and exposes to the fundamentals of clinical work including office support with basic history, vitals, understanding the team, communicating with patients, observing health care roles and processes. No graduate credit. 6 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.

CLE 612  Clinical Integration II  credit: 6 Hours. (https://courses.illinois.edu/schedule/terms/CLE/612)
This course examines and exposes to the fundamentals of clinical work including office support with basic history, vitals, understanding the team, communicating with patients, observing health care roles and processes. No graduate credit. 6 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.

CLE 621  Physical Diagnosis I  credit: 6 Hours. (https://courses.illinois.edu/schedule/terms/CLE/621)
This course addresses concepts of history and physical assessment, includes H&P, preoperative assessment, routine physicals. No graduate credit. 6 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.

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