

CPSC 6040	Computer Graphics Images	Presents the theory and practice behind the generation and manipulation of two-dimensional digital images within a computer graphics context. Image representation and storage, sampling and reconstruction, color systems, affine and general warps, enhancement and morphology, compositing, morphing, and non-photorealistic transformations. Students are expected to have completed coursework in data structures and linear algebra.
CPSC 6050	Computer Graphics	Computational, mathematical, physical and perceptual principles underlying the production of effective three-dimensional computer graphics imagery. Students are expected to have completed coursework in data structures and linear algebra.
CPSC 6200	Computer Security Principles	Covers principles of information systems security, including security policies, cryptography, authentication, access control mechanisms, system evaluation models, auditing, and intrusion detection. Computer security system case studies are analyzed. Students are expected to have completed coursework in operating systems and networking before enrolling in this course.
CPSC 6780	General Purpose Computation on Graphical Processing Units	Instruction in the design and implementation of highly parallel, GPU-based solutions to computationally intensive problems from a variety of disciplines. The OpenCL language with inter-operable OpenGL components is used. Applications to models of physical systems are discussed in detail. Students are expected to have completed coursework in data structures, calculus, and linear algebra before enrolling in this course. May also be offered as ECE 6780.
CPSC 6820	Special Topics in Computing: Game Design	In-depth treatment of topics not fully covered in regular courses. Topics vary from semester to semester. May be repeated, but only if different topics are covered.
CPSC 8170	Physically Based Animation	Physically based modeling and dynamic simulation techniques as used for the automatic description of motion and geometry for animation and computer graphics. A variety of approaches are explored, with a special emphasis on the use of particle-systems to represent complex phenomena. Preq: CPSC 6050.
CPSC 8810	Selected Topics	Advanced topics from current problems of interest in computer science. Topics vary from semester to semester. May be repeated for credit, but only if different topics are covered.
CPSC 8880	Directed Projects in Computer Science	Directed individual project supervised by department faculty. To be taken Pass/No Pass only.
CPSC 8910	Master's Thesis Research	Master's thesis research.
CPSC 9500	Selected Topics in Computer Science	Study of advanced topics from current problems of interest in computer science. May be repeated for a maximum of 12 credits, but only if different topics are covered. To be taken Pass/No Pass only.
CPSC 9910	Doctoral Dissertation Research	Doctoral dissertation research.