Graduate Certificate in the Learning Sciences

As new forms of digital and online resources transform communication and social interaction, the learning sciences emphasize the design of effective learning and teaching environments. Learning sciences is a rapidly evolving field dedicated to the study of learning in many environments in which it occurs, and the use of that knowledge to design innovative learning products and experiences.

Our program is designed to prepare regional, national and international students to design the future of technology-enhanced learning, conduct research to support best practices in learning and teaching, and assess the effectiveness of learning and teaching strategies for diverse audiences. Learning games, professional continuing education and certification modules, corporate training materials, patient education videos, online information portals, and interactive museum displays are just some of the many products and experiences that benefit from the insights provided by the Learning Sciences.

The Certificate in the Learning Sciences provides an advanced understanding of learning in formal and informal environments, integrating perspectives from instructional design and technology, educational psychology, and social foundations of education. Students who complete the Graduate Certificate in the Learning Sciences will have demonstrated requisite knowledge and skills necessary to conceptualize, design, deliver, and measure effective learning. The Graduate Certificate in the Learning Sciences is appropriate for advanced graduate students considering careers such as higher education faculty, research scientists, educational administrators, funding agency program directors, and policy makers.

Admission Requirements: To complete the Graduate Certificate in the Learning Sciences, students must be enrolled currently and in good standing in any graduate program at Virginia Tech. Students considering the Certificate should consult with faculty in one of the associated programs in the Department of Learning Sciences and Technologies to plan their study to be consistent with prior experience, career goals, and certificate requirements.

Certificate Requirements: Students must take at least twelve credit hours in the options listed below. All students are required to enroll in EDIT 5234, Introduction to the Learning Sciences. Students will then choose one elective, equal to a three-credit-hour course, from three of the other four categories listed below, Cognition, Design, Social Foundations, and Technology. The order of these courses, including EDIT 5234, may be taken at the discretion of the student after consulting with his or her advisor.

a. Introductory Course (Required for Certificate)
   EDIT 5234: Introduction to the Learning Sciences

b. Courses in Cognition
   EDEP 5114: Learning and Cognition
   EDEP 6114: Cognitive Processes and Educational Practice
   EDEP 6224: Constructivism and Education
   EDEP 6444: Motivation and Cognition
c. Courses in Design
   EDIT 5164: Design for Learning*
   EDIT 6334: Applied Theories of Learning*
   EDIT 5224: Principles for Learning Message Design

d. Courses in Social Foundations
   EDEP 5184: Sociocultural Influences on Learning and Instruction
   EDCI 5174: Informal Learning for School Age Youth
   EDCI 6024: The Analysis of Educational Concepts
   EDCI 6044: Classroom Discourse

e. Courses in Technology
   EDEP 6334: Multimedia Cognition
   EDIT 5594: Topics in Learning Environment Design and Development
   EDIT 5614: Digitally Mediated Learning
   EDIT 5634: Interactive Learning Media Development

   • Prior permission of instructor required for non-degree students outside Department of Learning Sciences and Technologies.

Application Process: When students decide to obtain the certificate, they should complete the Application - Certificate (Graduate Certificate Application). This form starts the process, designating the courses that will be taken for the certificate. Applicants should follow the directions on the form for returning it to the Graduate School. During the semester in which the certificate requirements are to be completed, students should complete and return the Application for Degree or Certificate. Both of these forms are available from the “Forms” section of the Graduate School’s home page (http://www.graduateschool.vt.edu/forms/index.html).

Certificate Faculty: The following faculty members of the Department of the Learning Sciences are affiliated with the Graduate Certificate in the Learning Sciences:
Dr. Jennifer Brill, Department of Learning Sciences and Technologies
Dr. John Burton, Department of Learning Sciences and Technologies
Dr. Katherine Cennamo, Department of Learning Sciences and Technologies
Dr. Peter Doolittle, Department of Learning Sciences and Technologies
Dr. Michael A. Evans, Department of Learning Sciences and Technologies
Dr. Jim Garrison, Department of Learning Sciences and Technologies
Dr. Brett Jones, Department of Learning Sciences and Technologies
Dr. Barbara Lockee, Department of Learning Sciences and Technologies
Dr. Susan Magliaro, Department of Learning Sciences and Technologies
Dr. Ken Potter, Department of Learning Sciences and Technologies
Dr. Jocelyn Wilson, Department of Learning Sciences and Technologies

For general inquires regarding the certificate, please contact the Faculty Chair, Dr. Katherine Cennamo <cennamo@vt.edu>