Robotics for STEM Educators

Graduate Certificate
19 Credit Hours

This program is offered by the School of Education. It is available online and at the WingHaven campus. Some select courses may be offered face-to-face at the St. Louis home campus.

For information on the general requirements for a certificate, see Certificate Program Policies and Procedures under the Academic Policies section of this catalog.

Program Description

The graduate certificate program in robotics for STEM educators enables professional educators (in K-12 schools, universities, training departments and other workplaces) to understand the principles and concepts of educational robotics and apply their knowledge to instruction and curriculum. It prepares professional educators to develop knowledge, skills and attitudes for the design, construction, analysis, application and operation of robots. The program is designed to support interdisciplinary learning outcomes and goals from STEM (science, technology, engineering and mathematics) disciplines. The STEM certificate is designed for a particular niche within the STEM umbrella.

The U.S. Department of Education defines Gainful Employment program criteria and data requirements. View this program's Gainful Employment Disclosure at http://www.webster.edu/consumers/gainful-employment/graduate/robotics-stem-educators/gedt.html to see important information about the education debt, earnings and completion rates of students who attended this program.

Program Standards

The candidate will be able to:

- Stay current with research that supports improved student learning outcomes, including findings from the learning sciences. (ISTE Standards for Educators, Empowered Professional 1.c)
- Model for colleagues the identification, exploration, evaluation, curation and adoption of new digital sources and tools for learning. (ISTE Standards for Educators, Empowered Professional 2.c)
- Collaborate and co-learn with students to discover and use new digital resources and diagnose and troubleshoot technology issues. (ISTE Standards for Educators, Empowered Professional 4.b)
- Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning. (ISTE Standards for Educators, Empowered Professional 5.b)

Requirements

- EDTC 5460 Curriculum Design Technology Apps (3 hours)
  or EDTC 5334 Constructivism and Technology (3 hours)
- EDTC 5465 Instructional Design (2 hours)
- EDTC 5250 Coding for Learners (2 hours)
- EDTC 5705 STEM Pedagogy and Instruction (3 hours)
- EDTC 5701 Operations & Methods of Teaching Robotics: Sensors (3 hours)
- EDTC 5702 Operations & Methods of Teaching Robotics: Robotic Arms (3 hours)
- EDTC 5703 Operations & Methods of Teaching Robotics: Drones and UAVs (3 hours)

NOTE: Courses cannot be applied to more than one certificate. Students who are pursuing multiple certificates will need to substitute courses as follows:

- If EDTC 5460 was used for a different certificate, then the required course is EDIN 5461 Curriculum: Creativity and Design or COMM 5460 Curriculum Design
- If EDTC 5465 was used for a different certificate, then the required course is EDTC 5745 Instructional Technology Planning and Management
- If EDTC 5250 was used for a different certificate, then the required course is EDTC 5255 Physical and Virtual World Coding

Admission

Students who are interested in applying to this certificate program should see the Admission section of this catalog for general requirements.

Admission Requirements

- Receipt of official transcripts from the baccalaureate granting institution.
- Undergraduate cumulative GPA of 2.5 or higher.
- Essay: Why are you interested in the certificate in robotics for STEM educators?

Send all admissions materials to:
Office of Admission
Webster University
470 East Lockwood Ave.
St. Louis, MO 63119

Completed application files will be reviewed by the coordinator of Educational Technology.

Transfer of Credit

No transfer credit allowed for the certificate in robotics for STEM educators.

This page was modified on 28 June 2019.
Please see the Graduate Catalog Addendum to view changes that were made.