Integrative Science, Technology, Engineering, and Mathematics (I-STEM) Education is defined as: technological/engineering design based teaching and learning approaches to intentionally integrate content and practices of science and/or mathematics education concurrently with content and practices of technology/engineering education. Integrative STEM education is equally applicable at the natural intersections of learning within the continuum of content areas, educational environments, and academic levels. (Wells & Ernst, 2012).

**Education Specialist (EdS)**

**Integrative STEM Education**

**Admission Requirements**
Master’s degree (3.3+ graduate GPA); Faculty interview (F2F or Internet audio); Writing samples; 3 letters of recommendation; Resume

**Degree Requirements**
Approved Plan of Study (POS); 30+ semester hours (SH) beyond master’s (21+ SH from VT); Field study; EdS Project; Final examination. The Integrative STEM Education coursework for this degree (shown below) is available via synchronous web-based, audio/video delivery.

**Integrative STEM Education Core Courses** (15+ SH)
- EDCI 5804: STEM Education Foundations (3 SH – Fall Semester)
- EDCI 5814: STEM Education Pedagogy (3 SH – Fall Semester)
- EDCI 5824: STEM Education Trends and Issues (3 SH – Spring Semester)
- EDCI 5834: STEM Education Research (3 SH – Alternate Spring Semesters)
- EDCI 5844: STEM Education Seminar (3 SH – Fall and Spring Semesters)
- EDCI 5854: Biotechnology Literacy by Design (3 SH – Alternate Spring Semesters)
- EDCI 5774: Readings in STEM Education (3 SH – Fall and Spring Semesters)
- EDCI 5964: Field Studies in [I-STEM] Education (3 SH – Fall and Spring Semesters)

**Research & Evaluation** (6+ SH, including EDCI 5834 above)
- EDRE 6605: Quantitative Research Methods in Education (3 SH)
- Or EDRE 6504: Qualitative Research Methods in Education (3 SH)

**Educational Foundations** (6+ SH, including EDCI 5804 above)
- Educational Foundations Elective (3 SH)

**Field Study / Project** (3+ SH)
- EDCI 7964: Field Studies in [Integrative STEM] Education (3 SH)

**Cognate** (3+ SH)
- Courses outside the SOE, including: STS; STEM content area courses; EngE; etc.

**For more information**
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