

ROCHESTER INSTITUTE OF TECHNOLOGY
The College of Science and the Saunders College of Business

Executive Summary: BS Degree in Integrated Science and Entrepreneurship (ISE)

The proposed interdisciplinary BS ISE program will provide its students with the skills necessary to guide the development and deployment of science and technology in a team-based business environment. It prepares students for careers such as entrepreneurs, analysts, managers operating in science-based industries, technical marketing and sales, and project or program directors within companies. The ISE program breaks down traditional disciplinary barriers and provides students with solid preparation in any one of the core science or math disciplines while adding an array of relevant business courses and complementary skills, such as entrepreneurship for scientists, the use of social media, team management, experiential learning through co-ops, negotiating, and marketing. The program completes the synthesis of these two fields through experiential learning in its required co-ops and capstone projects.

Today, science impacts every aspect of society. It is at the core of every major innovation that has occurred within the past few decades. Large corporations have recognized the value of agile approaches to product development and have restructured their R&D labs to embrace the adaptability and agility of small, entrepreneurial science teams. The challenge they face is in the staffing of these teams - populating them with scientists and entrepreneurs requires a learning curve in which the two groups must develop communication skills with one another. This process is expensive and time consuming. Recently, these employers have been turning to students with a degree in both science and entrepreneurship to eliminate the learning curve through the synthesis of the knowledge and skills in these two disparate fields. Graduates of competing programs are being employed in positions in corporate management, project management, corporate analysis, research and development, production, and various start-up businesses. The largest of these competing degree programs (at Virginia Tech) has an enrollment of 120 students with nearly 100% placement rate. RIT's educational excellence and location would address this clear need in the Northeast region with the ISE degree.

The ISE curriculum employs existing COS science/math courses combined with SCB's business and entrepreneurship courses to enable its graduates to guide development and deployment of scientific knowledge in a business setting. The ISE degree program fuses the two curricula together using courses such as entrepreneurship for scientists, the use of social media, team management, experiential learning through co-ops, negotiating, and marketing. As part of the ISE degree, the students must complete two co-ops, one in a traditional science laboratory environment, and one in a business-focused environment that includes the integration of scientific innovation with customer, cost, and timeline constraints.

Enrollment management has projected a steady state enrollment of 44 students. Competing programs report enrollments ranging from 20 for a two-year degree to 120 for an ISE equivalent degree. The current average starting salary for competing similar degrees is in excess of \$84k, and we fully expect students to recognize the value of the ISE degree whether they choose a corporate career path or an entrepreneurial one. The ISE graduates will be well prepared for both.

The four-year ISE BS degree is made up of at least 24 credits in the student's selected science/math discipline, and 24 credits of business courses from SCB along with general education and elective courses for a total of 121 credits. Each science/math curriculum as well as the core ISE business curriculum has been defined and approved by their respective school/college curriculum committees.

In summary, the interdisciplinary ISE degree program and the demand for these types of graduates suggest that the job market for ISE graduates will be strong for many years and RIT is uniquely positioned to fulfill these demands.

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