Software Engineering

Composite Major

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Major

Software Engineering (SE) is all around us. The IT industry is a diverse field impacting virtually every business—from the service industry and technology companies to manufacturing specialists and health care professionals within large companies and small businesses. VCSU’s Software Engineering, the first major of its kind in the North Dakota University System, prepares students with problem solving skills required to create software solutions to meet the needs of employers.

The CSSE Department has joined in Academic Alliances with technology companies such as SAP, Microsoft, and Salesforce, using these technologies to complete hands-on projects. Students often work in teams to encourage the learning of group dynamics and soft-skills. Nontraditional IT majors may be interested in Software Engineering because of the inclusion of humanistic issues such as project management, requirements gathering, and human computer interaction.

Software Engineering majors learn to create software from start to finish. They learn to ask questions to understand problems, design software to solve those problems, build and test the software, and implement the solution. Various courses contribute to this learning. Students with an SE degree can become software engineers, software developers, software architects, IT project managers, business analysts, systems analysts, cyber security managers and more.

Visit our page at csse.vcsu.edu (http://csse.vcsu.edu/). Let your dream become a reality at Valley City State University!

Practical Experience

Students are encouraged to complete internship credits and count those credits towards their Software Engineering major. Companies such as Doosan, Blue Cross Blue Shield of North Dakota, Bobcat, NASA, Thomson Reuters, Cavendish, John Deere, Microsoft, Appareo Systems, NBC Universal, and North Dakota Information Technology Department have welcomed VCSU students in their internship programs. VCSU students develop excellent technology and soft skills and many are hired into full-time positions with these companies after graduation.

In addition to internships, cooperative research projects with faculty give students first-hand experience with advanced research techniques. The undergraduate research ranges from Virtual Reality to the Internet of Things. Students also bring together their skills and knowledge in the capstone course where they typically work in a student led team with stakeholders outside of the classroom to complete a project that is technical in nature.

*When I started the Software Engineering program at VCSU I did not know anything about programming or management. The SE program taught me how to program while also teaching me how to manage and be managed as a software engineer. With this experience I will eventually be able to become an expert in my field.* Benjamin Kietzman ’20, Edgeley, ND

Plan of Study

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<th>First Year</th>
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Total Credits 121

Please note: This plan is intended for general information only. Students are strongly encouraged to meet with their academic advisor each semester before registration.