Software Engineering (SE) is defined by IEEE as “the application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software.” SE is the discipline that provides methods and tools for constructing quality software and one of the fastest growing areas in the Information Technology field. The Software Engineering concentration will prepare IT students for careers in the field by exposing them to foundational software engineering knowledge and practical skills.

The Software Engineering concentration consists of the following 10 courses:

- ITEC 3250 Software Engineering
- ITEC 3264 Data Structures and Algorithm Analysis
- ITEC 3265 Operating Systems
- ITEC 4261 Java Programming OR ITEC 4266 C++ Programming
- ITEC 4270 Robot Programming
- ITEC 4329 Data Communications
- ITEC 4361 Software Security
- ITEC 4362 Computer Architecture
- ITEC 4364 Systems Programming
- ITEC 4365 Software Testing and Quality Assurance
Explain why the new curriculum is needed. For example, does it reflect disciplinary content that augments existing degree programs? Does it address regional industry needs? How does the curriculum align with the mission of the college?

Software engineering is a rapidly growing field in IT. This concentration will fill a major gap in the BS IT curriculum.

The Software Engineering concentration in the BSIT program will prepare IT students for careers in the field by exposing them to foundational software engineering knowledge and practical skills. In addition, the content of this concentration will help the School of IT be designated as a Center of Academic Excellence in Cyber Operations.

Does this new track, minor, or certificate require new courses be added to the catalog?  ☒ Yes  ☐ No
(Attach course proposals)

Will the new track, minor, or certificate require new faculty lines or other institutional resources?  ☐ Yes  ☒ No

If yes, explain:

For new minors:
Does the new minor adhere to BoR guidelines (http://www.usg.edu/academic_affairs_handbook/section2/C731/)?
☒ Yes  ☐ No  (Attach BoR minor notification form)

For new certificates:
Does the new certificate adhere to BoR guidelines (http://www.usg.edu/academic_programs/changes/certificates_guidelines)?
☒ Yes  ☐ No  (Attach BoR certificate notification form)