Frequently Asked Questions:

What is the MSCTS Program?
The MS in Clinical & Translational Science is designed to train future team leaders in clinical and translational science research. The program consists of a combination of integrative didactic and hands-on educational experiences that will provide students with a global, yet detailed, perspective on the complex continuum of translating hypothesis-driven basic research findings into clinically useful and commercially viable tests or treatments.

What is the CIBS Concentration?
The CIBS concentration is designed for students wishing to specialize in computer generated image reconstruction for understanding visualization of normal and diseased organ function and accurate localization of tumors in organs. Emphasis is placed on understanding aspects of clinical research including drug development, biology of disease and functional imaging coupled with structural aspects obtained from computer-generated image reconstruction to arrive at the final reconstructed 3D image.

What will the MSCTS CIBS Concentration prepare you to do?
Graduates of the program will utilize the knowledge obtained to design and oversee programs, facilitate and manage collaborations, and lead research teams in clinical and translational research.

The computational imaging and biopharmaceutical science concentration is designed for students wishing to specialize in computer generated image reconstruction for understanding visualization of normal and diseased organ function and accurate localization of tumors in organs. Emphasis is placed on understanding aspects of clinical research including drug development, biology of disease and functional imaging coupled with structural aspects obtained from computer generated image reconstruction to arrive at the final reconstructed 3D image.

The Master of Science in Clinical and Translational Science (MSCTS) Program

Developed to advance a career in Biomedical Imaging, the CIBS Concentration within the MSCTS Program prepares students for a managerial and scientific role in the clinical trial and biopharmaceutical fields. Specifically, students will develop skills in the areas of:

- Drug Development
- Clinical Trial Design
- Translational Science
- Visualization
- Computer Science
- Medical Informatics
- Machine Learning
- Data Science

CIBS Course Distribution

**Fall**

1. Perspectives in Drug Development (3 credits)
2. Computers in Biomedicine (3 credits)
3. Computer Graphics/Visualization (3 credits)
4. One Elective course from CS/RU (3 credits)
5. Research (3 credits)

**Spring**

6. Computer Vision (3 credits)
7. Practical Aspects of Clinical Trial Design (3 credits)
8 & 9. Two Elective courses from MCTS/GSBS at RU (6 credits)
10. Research (3 credits)

The curriculum consists of courses amounting to 30 credits within the program. Students can choose to finish in one year or extend up to a maximum of four years.

Complete the 30-credit program with ELECTIVES such as:

- Computer Methods in Statistics
- Computational Thinking
- Principles of Artificial Intelligence
- Ethics and Regulation in Clinical Research
- Commercializing Innovation
- Drug Development from Concept to Market
- Principles of Drug Design
- Medical Device Development

Masters Program Concentration in Computational Imaging and Biopharmaceutical Science