**Mission Statement:** Students majoring in this program will be prepared to become employees for the science-based industries, medical fields, and agencies that use modern technology. This program provides an excellent background in computer science/information systems technology as well as a solid foundation in biology, supporting sciences, and mathematics.

The graduates of this program will be capable of problem solving and developing marketing strategies for products of research and service in the science-based information industries, such as the biotechnology industry where a background in science and technology, is increasingly necessary.

This program also provides an excellent foundation for persons wishing to pursue a specialized professional career such as medicine, dentistry, etc. or to obtain advanced education in the health fields or biological science.

**Goal Statement:** Graduates of the Biology for Information Systems program will possess the knowledge and skills to gain admission to graduate programs or health professions schools or be able to gain employment in business and industry where an understanding of the world of business, information systems, biology, and related math and science areas is required or desirable.

**Biology for Information Systems graduates will:**

**Goal 1. Have a basic knowledge of the principles of biology.**

a. Graduates will understand the important concepts and methods of the major disciplines within biology.

1) Course Grades: 80% of graduates will successfully complete upper division coursework in biology with a minimum grade of C in each course.

2) Minimum GPA in Major Field: 80% will have a min. GPA of 3.0 in biology courses.

3) Major Field Assessment Test (MFAT): 80% will score no lower than 1 SD below the user norm.
4) Exit Interview: 90% of graduates will indicate that they are satisfied that they have the content knowledge to be successful in research, the health professions or other areas related to biology.

b. Graduates will have a basic knowledge of the history and philosophy of science and will understand the ethical and humanistic implications of the practice of science including issues in biology that are controversial in nature.

1) Course Grades: 80% of graduates will successfully coursework in biology with a minimum grade of C in each course.

2) Portfolio: 80% of graduates will demonstrate proficiency through portfolio artifacts exploring science and contemporary issues.

**Goal 2. Be able to use their knowledge of concepts in biology to solve problems.**

a. Students will improve their understanding and ability to employ the process of science including the basic steps of the scientific method and use this ability to conduct research in biology.

1) Basic Course: 80% of freshman declared majors will demonstrate basic performance using the scientific method to design an experiment.

2) Upper Level Course: 90% of junior/senior majors will demonstrate proficiency in using the scientific method for a class assignment in SCTC 303 Introduction to Biological Instrumentation.

3) Capstone Course: 100% of graduates will demonstrate mastery of the methods of scientific inquiry through the completion and presentation of the project fulfilling the requirements for BIOL 498: Undergraduate Research/Scholarship.

b. Graduates will think logically and be experienced problem solvers.

1) Portfolio: 80% of graduates will demonstrate proficiency through portfolio artifacts that emphasize problem solving skills in biology.

2) Exit Interview: 90% will indicate that they are satisfied with their problem solving skills.

3) Employer Survey: 90% of employers will be satisfied with graduate’s ability to solve problems. (Average of questions 8 and 9)

**Goal 3. Have a high degree of proficiency in the use of computer technology.**
a. Students will be proficient users of computer technology to find information, acquire and analyze data, and communicate results and conclusions.

1) Technology-imbedded courses: 80% of graduates will successfully complete SCTC 303 Introduction to Biological Instrumentation and SCTC 345 Bioinformatics with a minimum grade of C for each course.

2) Undergraduate Research: 100% will demonstrate proficient use of computer technology in their project.

3) DSU Technology Exam: 90% of graduates will score above one standard deviation below the mean for the DSU campus.

4) Exit Interview: 95% of graduates will indicate that the biology for information systems program provided good to excellent preparation in the use of computer technology.

b. Graduates will be able to successfully use technology in their post-graduate career:

1) Exit Interview: 90% of graduates will indicate that they are satisfied that they have the technology skills and computer knowledge to be successful in their chosen career.

2) Graduate Survey: 90% of graduates will be satisfied with their technology preparation in the program. (Average of questions 1 and 4)

3) Employer Survey: 90% of employers will be satisfied with the technology preparation of the graduate. (Average of questions 1 through 3)

**Goal 4. Students will be able to communicate their knowledge and results effectively for a wide range of purposes and intended audiences.**

a. Graduates can effectively communicate information in writing.

1) Writing Intensive Course: 95% of graduates will successfully complete an upper level writing intensive course (ENGL 379 Technical Communication) with a minimum grade of C for the course.

2) Undergraduate Research: 100% of graduates will demonstrate proficient scientific writing in the final paper required for completion of BIOL 498 Undergraduate Research.

3) Graduate Survey: 90% of graduates will indicate that they are satisfied with their written communication skills. (Question 5)
4) Employer Survey: 90% of employers will indicate that the graduate has adequate to very good writing skills as they relate to the graduate's position. (Question 4)

b. Graduates are effective speakers communicating information to a variety of audiences.

1) Undergraduate Research: 100% will demonstrate proficiency in effective oral communication with the final presentation required for completion of BIOL 498: Undergraduate Research/Scholarship.

2) Exit Interview: 90% of graduates will be satisfied with their ability to be effective speakers communicating information to a variety of audiences.

3) Graduate Survey: 90% of graduates will be satisfied with their oral communication skills. (Question 6)

4) Employer Survey: 90% of employers will be satisfied with the oral communication skills of the graduate. (Question 5)

c. Graduates have solid social skills.

1) Graduate Survey: 90% of graduates will be satisfied with their interpersonal skills. (Question 8)

2) Employer Survey: 90% of employers will be satisfied with the interpersonal skills of graduates from the program. (Question 7)