

Integrated Science and Technology Minor

The minor in ISAT mirrors the major in ISAT by having a breadth component and a depth component. The breadth component is satisfied through nine credit hours in Issues in Science and Technology and the Foundations of Instrumentation and Measurement. The depth component is satisfied through focused study in a concentration area requiring either nine or ten additional credit hours.

Students should note that many courses have ISAT prerequisites outside the minor (although equivalents to ISAT prerequisite courses will be accepted). In planning a sequence of courses for the minor, students are encouraged to meet with an ISAT adviser to ensure that all needed prerequisites will be taken in due course. In addition, before a student pursuing an ISAT minor can take any ISAT course, a grade equal to or higher than "C-" is required for all ISAT foundation courses that are prerequisites for another required course. The minimum requirements for the minor in ISAT follow.

REQUIRED COURSES	CREDIT HOURS
Choose three courses from the following:	9-10
GISAT 112. Environmental Issues in Science and Technology	
GISAT 113. Issues in Science and Technology: Living Systems	
ISAT 211. Issues in Modern Production	
ISAT 212. Energy Issues in Science and Technology	
ISAT 253. Analytical Methods V: Instrumentation and Measurement	
CHOOSE ONE THE FOLLOWING SEQUENCES:	
Energy	
ISAT 301. Energy Lab	1
ISAT 310. Energy Fundamentals I	3
ISAT 311. Role of Energy in Modern Society	3
Environment	
ISAT 302. Environmental Lab	1
ISAT 320. Environmental Fundamentals	3
ISAT 321. Environmental Projects	3
Engineering and Manufacturing	
ISAT 303. Engineering/Manufacturing Lab	1
ISAT 330. Manufacturing Systems: Techniques and Technologies	3
ISAT 331. Automation in Manufacturing	3
Information and Knowledge Management	
ISAT 340. Software Development	3
ISAT 341. Modeling and Simulation	3
Applied Biotechnology	
ISAT 305. Biotechnology Lab	1
ISAT 350. Biotechnology for the New Millennium I	3
ISAT 351. Biotechnology for the New Millennium II	3
Telecommunications	
CIS 320. Computing and Telecommunications Networks	3
ISAT 361. Fundamentals of Data Communications and Networking	3
ISAT 306. Instrumentation and Measurement in Data Communications and Networking	1
One additional 3 credit Integrated Science and Technology course at the 300 or 400 level	3

NOTE: Some courses may have pre- or co- requisites that are not included in the credit total. It is the student's responsibility to fulfill any pre- or co- requisites required.

These courses, collectively fulfill the 9 credit approved technical elective package for the Bachelor of Science in the School of Engineering.