



University Bulletin

Undergraduate Degree Programs

Information Sciences And Technology (IST)

IST 220 Networking and Telecommunications (3) Introduction to digital network topologies; transmission media, signal modulation, digital packet switching and routing, systems integration, communications management, and security.

IST 220 Networking and Telecommunications (3)

The course includes an introduction to: telecommunications history; telecommunications transmission media (conducted and radiated); transmission characteristics (including an introduction to coding and modulation techniques); error characteristics, detection, and correctional; local and wide area networking applications, hardware, and software; the OSI models; industry standards; topologies; protocols; internetworking devices; communications management; security and recovery; information system applications; and the selection of telecommunications and networking systems. Special attention will be paid to evolving Internet Protocol (IP) technologies, e.g., Internet2.

IST 220 is an introduction to digital networking and telecommunications and their applications in information systems. IST 110 is the only prerequisite. It is a required core course for both the two-year and four-year Information Sciences and Technology degrees, and is a critical part of the curriculum. Its objective is to provide the students with a basic understanding of the working of digital networks and the ability to apply this knowledge to specific applications and situations. Evaluation of knowledge objectives will be by examination; and of application (i.e., selection and management) objectives by grading of group and individual projects and case studies.

As a "core course", IST 220 will be offered every semester at University Park, in as many sections as necessary to meet current demand. At other locations where the Associate and Baccalaureate degrees are offered, it will be offered 1-2 times annually depending on demand. Ideally, section size should not exceed 45 students per class.

While the course is about digital technology and how it works, it is not a "hands on" course, or a training course in particular equipment and/or applications. While there will be demonstrations of relevant technologies, the course is not equipment-intensive and will not involve special technology needs beyond the normal access to computing and the Internet.

The course is not duplicative of any other course currently offered. Although there is some overlap with CMPET 401-402, CSE 458, and COMP 421, none of these courses cover exactly the same material, and they operate at a different level of depth and detail. M I S 180 also overlaps somewhat, but it appears that no current course provides the same 200-level mixture of local and wide-area networking and business communications topics.

General Education: None

Diversity: None

Bachelor of Arts: None

Effective: Summer 1999

Prerequisite: **IST**

[110/bulletins/bluebook/university_course_descriptions.cfm?letter=I&course=IST110](http://www.psu.edu/bulletins/bluebook/university_course_descriptions.cfm?letter=I&course=IST110)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

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The University reserves the right to change the requirements and regulations listed here and to determine whether a student has satisfactorily met its requirements for admission or graduation, and to reject any applicant for any reason the University determines to be material to the applicant's qualifications to pursue higher education. Nothing in this material should be considered a guarantee that completion of a program and graduation from the University will result in employment.

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