

**Bachelor of Applied Science  
Information Technology Infrastructure Major Courses - PREREQUISITES**

University of Minnesota-Twin Cities (UMTC)

Course Topic	Course #	Cr.	Prerequisites (required or strongly recommended)
<b>ITI Foundation Courses</b>			
C Programming: Language & Applications	INet 3101	2	Programming experience or knowledge (Java, C+, etc.), CSci 2021
Web Infrastructure <i>or</i> Discrete Structures of Computer Science	INet 3102 <i>or</i> CSci 2011	2 4	INet 3101 or CSci 2021 or equivalent experience MATH 1271 or MATH 1371 or instr consent
<b>ITI Core Courses</b>			
Social Impact of Information Technology	INet 3011W	3	none
Foundations of Operating Systems	INet 4001	4	CSci 2021 or EE 2361
Foundations of Networking	INet 4002	3	Basic knowledge of computer architecture and operating systems, i.e., CSci 2021, INet 4001 or CSci 4061
Introduction to Systems	INet 4031	4	Secure knowledge of operating systems, i.e., INet 4001 or CSci 4061
IT Infrastructure Operations [Capstone]	INet 4051	3	INet 4002 or CSci 4211; senior
IT Infrastructure Projects and Processes	INet 4082W	3	45 credits
Introduction to Security: Policy and Regulation	INet 4153	4	Experience with Windows/internet; 45 credits
Introduction to Databases	INet 4707	4	INet 4001 or CSci 4061; 45 credits
<b>ITI Sub-plan Courses</b> (Choose 10–13 credits depending on sub-plan)			
Security II: Cyber Security	INet 4007	4	Basic knowledge of security issues and processes (i.e., INet 4165)
Networking I: Network Administration	INet 4011	4	INet 4002 or CSci 4211 or equivalent networking knowledge
Dev Ops I: Network Programming	INet 4021	4	Math and physics admission requirements completed; CSci 2021
Systems I: Storage	INet 4032	4	Operating system knowledge, i.e., INet 4001 or CSci 4061. File systems, I/O, computer architecture
Networking II: Emerging Technologies	INet 4041	4	INet 4002 or CSci 4211. INet 4001 or CSci 4061. Computer architecture. Probability theory. Sr.
Data Science I: Fundamentals	INet 4061	4	Basic statistics and programming skills, CSci 2021, laptop
Systems II: Analysis and Design	INet 4083W	3	INet 4082W or project management experience, INet 4032
DevOps II: Development Strategies	INet 4121	4	Operating system knowledge, i.e., INet 4001 or CSci 4061, INet 4021. Basic Python
Security I: Principles	INet 4165	3	INet 4001 or CSci 4061 or operating system knowledge
Directed Study	INet 4193	1–4	ITI faculty director and instructor approval, ITI student
Internship	INet 4596	1	ITI faculty director and instructor approval; ITI student; jr or sr
Data Management I: Fundamentals	INet 4709	3	INet 4001 or CSci 4061; INet or CSci 4707; or professional experience with SQL and basic operating systems
Data Science II: Big Data Analytics	INet 4710	4	Basic programming knowledge (Java, Python, R). INet 4061. Linear algebra.
Data Management II: Distributed Systems	INet 4711	4	INet 4031, 4707, and 4709
<b>Management</b> (Choose one course)			
Management in Organizations	ABus 4022W	3	45 credits
Health Care Administration and Mgmt.	HSM 4561W	3	soph
<b>Business Communication</b>			
Communicating for Results	ABus 4023W	3	45 credits
<b>Cost Accounting</b> (Choose one course)			
Accounting and Finance for Managers	ABus 4101	3	financial accounting; 45 credits
Health Care Finance	HSM 4541	3	45 credits, basic accounting, Microsoft Excel
<b>Quality and Process Improvement</b> (Choose one course)			
Introduction to Quality Management	ABus 3301	3	introductory statistics
Quality Engineering and Management	MM 4201	3	introductory statistics