The Applied Computer Science major is designed to prepare students in the following core areas:

- Programming Fundamentals (object-oriented, event driven, algorithms)
- Information Management (database systems, data modeling/warehousing, relational databases)
- Software Engineering (software requirements, design, process and project management)
- Operating Systems
- Net-Centric Computing (internet programming, networks, security)
- Human Computer Interaction (GUI Design and Programming)
- Intelligent Systems (Machine Learning).

Our team-oriented courses are meant to strengthen communication skills, experience group dynamics, and foster self-confidence. The 4-year major includes the development of a team-based software project for a local IT organization. Our program will help develop analytical thinking and applied skills by blending theoretical and practical aspects of computer science.

The program can lead to a **Bachelor of Science (3-year, 4-year, or Honours)** or a **Bachelor of Arts (3-year or 4-year).** There are 4 streams: Applied Computer Science, Information Systems, Health Informatics, and Scientific Computing.

Students taking an undergraduate degree in another Major may choose to add a **Minor** in ACS as a secondary area of interest. The department also offers a **Masters degree - *see separate fact sheet.***

SAMPLE CAREERS

business and scientific

Software Design and Architecture is an advanced course in software design that examines recent advances in the design of larger application systems. Topics include software architecture, object-oriented analysis and design, software patterns, and the Unified Modelling Language (UML).

Senior Systems Development Project is a fourth-year course that applies the principles and techniques of software project management. A project proposal, project plan, regular status reports, and a completion report are required. All work must conform to proper analysis, design, programming, and documentation standards. Each student team holds status reviews at appropriate life-cycle milestones. A final presentation and a formal demonstration of the system are required at the end.

SAMPLE FIRST YEAR

ACS-1903(3) Programming Fundamentals I
ACS-1904(3) Programming Fundamentals II
MATH-xxxx(3) 3 credit hours from Mathematics
STAT- xxxx(3) 3 credit hours from Statistics
RHET-1103(3) Academic Writing: Science or any other section of Academic Writing (if required)
15 - 18 credit hours Electives

NOTE: This sample first year is representative of the courses you may take. For many of our programs, you may choose another set of courses and still be well on your way to a degree. Also, for most programs you do not have to take 30 credit hours (five full courses) in your first year.

"I left the University of Winnipeg with strong computer programming and database design skills. As the Application Administrator for a large hospital information system I am able to put these skills into practice on a daily basis."

- Matthew Sodomsky (BSc) Application Administrator, Manitoba e-Health, Winnipeg Regional Health Authority (WRHA)

REQUIRED HIGH SCHOOL COURSES

You must meet The University of Winnipeg's general admission requirements.
Applied Mathematics 40S or Pre-Calculus 40S may be required.

HOW TO APPLY

For details on application requirements and deadlines, and to apply online, please visit:
uwinnipeg.ca/apply

For more information contact a student recruitment officer at welcome@uwinnipeg.ca or 204.786.9844. In any case where the University's Academic Calendar and this fact sheet differ, the current Calendar takes precedence.

CONTACT US

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