

SPECIALIST (CO-OPERATIVE) PROGRAM IN STRATEGIC MANAGEMENT - Management Strategy Stream (BACHELOR OF BUSINESS ADMINISTRATION) - SCSPE2432P

Academic Director: S. Ahmed E-mail: mgmtss@utsc.utoronto.ca

Assistant Director: P. Brown E-mail: mgmtcoop@utsc.utoronto.ca

The Specialist (Co-operative) Program in Strategic Management is a Work Integrated Learning (WIL) program that combines academic studies with paid work terms in public and private enterprises. Depending on their needs and abilities, students work in areas such as accounting, public administration, auditing, communications, economic development, finance, human resources/personnel, information systems, marketing, policy, strategic planning and entrepreneurship.

At its most fundamental level, effective strategic management is about understanding and successfully managing strategic interactions with other firms and individuals. Strategic interactions take place whenever our fortunes depend not only on our own actions, but also on the actions of our rivals (and vice versa). In these instances, our optimal actions – and those of our partners and competitors - are inextricably connected. How should we think about these interactions and formulate an action plan?

The Specialist Program in Strategic Management - which includes a Management Strategy Stream and an Entrepreneurship Stream - will give students the skills to address this essential question. Integrating tools from economics and other management disciplines, students will gain a profound understanding of business and corporate strategy and their sub-disciplines, and/or entrepreneurship.

Overall, as a Strategic Management specialist students will develop an ability to identify, simplify, and analyze highly complex business problems, to strategize implementable solutions, and to articulate the key elements of their strategic reasoning in a simple, compelling and engaging way to a non-expert audience. Indeed, the strategic mindset that students will gain from this specialty will help them successfully navigate the stormy waters of business, whether they plan a career as a management consultant, economic consultant, manager in private-sector, public sector and non-profit organizations, investment banker, or entrepreneur. Both streams have a non-co-op and a co-op component. Co-op students should see the section regarding work term requirements for specific details on courses required before each work term.

Enrolment Requirements

Enrolment in this Program is limited.

1. Students applying directly from high school are admitted on the basis of academic performance. They must have completed Grade 12 English and Grade 12 Calculus.

Course Guidelines for Students Admitted to B.B.A. Co-op Programs Directly from High School

Students must complete the following courses in their first year of study: [MGEA02H3](#), [MGEA06H3](#), [MATA34H3](#), [MGAB01H3](#), [MGAB02H3](#), [MGHA12H3](#), [MGMA01H3](#) and [MGTA38H3](#).

2. Students requesting admission after the first year must request ONLY ONE Management Co-op Subject POST on ACORN. Students may apply at the end of the Winter semester and/or at the end of the Summer semester. Application for admission will be considered only for the round during which the student has made the Subject POST request.

The minimum Cumulative Grade Point Average (CGPA) for Program admission is calculated for each application period, and is based on University of Toronto courses only. Normally, the minimum CGPA requirement for Co-op Programs will be higher than for non Co-op Programs. Decisions are made when all grades have been received.

Students must have completed the following courses (or their equivalent): [MGEA02H3](#), [MGEA06H3](#), and [MATA34H3](#). However, [\[\[MATA29H3 or MATA30H3 or MATA31H3 or \(MATA32H3\)\]\]](#) and [\[\(MATA33H3 or MATA35H3 or MATA36H3 or MATA37H3\)\]](#) may also be used to satisfy the calculus requirement. None of the courses listed above (or their equivalent) can be designated as CR/NCR. Of the total credits that students have completed when they apply, at least 4.0 credits must be in University of Toronto courses that have been graded (i.e., not designated as CR/NCR). Students may apply until they have completed up to 10.0 credits. Students who have completed more than 10.0 credits will not be considered for admission to the Program.

Applicants must submit a resume and covering letter to the Management Co-op Office during the limited Subject POST request period outlined on the Office of the Registrar's [website](#). For information on what to include in your resume and covering letter, visit the Management Co-op [website](#). An interview may also be required.

CGPA Requirement to Remain in the Program

Students whose CGPA falls below 2.5 will be placed on probation; Students whose CGPA falls below 2.3 will be removed from Co-op, and students whose CGPA falls below 2.0 will be removed from all BBA programs. A student may request reinstatement to the non Co-op Specialist Program only if they complete at least 2.0 credits (none of which can be designated as CR/NCR) in the following session and raise their CGPA to at least 2.0. This opportunity will be provided only once.

Most internal admissions to Management Co-op will be done at the end of the Winter semester. Based on availability, a small number of students who apply at the end of the Summer semester may be admitted.

Program Requirements

Students must complete the program requirements as described in the Specialist Program in Strategic Management.

Co-op Work Term Requirements

All Co-op students must take [MGTA38H3](#) prior to the commencement of their first work term. Students are advised to consult regularly with the Academic Director, or the Program Advisor if they have questions regarding course selection and scheduling. It is, however, the student's individual responsibility to ensure that they have completed the correct courses to make them eligible for each work term and that they have correctly completed program and degree requirements for graduation.

Students who apply after the first year and are successful in receiving a June offer to any Management Co-op program will be expected to complete a Co-op Advancing Your Career Exploration (AYCE) course beginning in the third week of June, and continuing throughout the summer.

To compete for a work term a student must maintain a 2.5 CGPA, and must have completed:

1. For the first work term:

- a) 7.0 credits, including: [MGEA02H3](#), [MGEA06H3](#), [MGAB01H3](#), [MGAB02H3](#), [MGHA12H3](#), [MGMA01H3](#), [MGTA38H3](#), [MATA34H3](#). However, [MATA29H3](#) or [MATA30H3](#) or [MATA31H3](#) or [MATA32H2](#) and [MATA33H3](#) or [MATA35H3](#) or [MATA36H3](#) or [MATA37H3](#) may also be used to satisfy the calculus requirement.
- b) The Management Co-op Advancing Your Career Exploration (AYCE): [COPB11H3](#) and [COPB12H3](#) or [COPB10Y3](#).

2. For the second work term: 9.0 credits.

3. For the third work term: 11.0 credits.

For information on fees and status in Co-op programs, and certification of completion of Co-op programs, please see the [Co-operative Programs](#) section or the [Management Co-op](#) section in the *UTSC Calendar*.

Calendar Section: [Management](#)

SPECIALIST (JOINT) PROGRAM IN JOURNALISM (ARTS) - SCSPEJOU

Program Advisor Email: acm-pa@utsc.utoronto.ca

This program may be taken in fulfillment of the requirements of a four-year (20.0 credit) Honours Bachelor of Arts (BA) degree and requires four to five years to complete. In addition to completing the requirements for the Honours BA, students will also qualify for the Ontario Graduate Certificate in Contemporary Journalism from Centennial College.

Courses are taught at both U of T Scarborough and at Centennial College (The Story Arts Centre in East York). Year 1 and Year 2 of the program are taught at UTSC. Centennial courses are taken during three consecutive college semesters starting in the Fall semester of Year 3 of the program, prior to returning to UTSC for a final semester of instruction in the Fall semester of Year 4 of the program. Students must be registered on a full-time basis while at Centennial College. The course work during the Centennial College portions of the program may include evenings and weekends. The Centennial College portions of the program also includes a 7-week, 35-hour field placement (JOU25H3). The final semester prior to graduation will take place on the UTSC campus where students will complete the C- and D-level program requirements, including the D-level capstone course.

Guidelines for first-year course selection

Students intending to complete the program should include the following in their first-year course selection: [MDSA01H3](#) and [JOUA01H3](#) and [JOUA02H3](#) and other courses of interest.

Guidelines for computer and software selection

Students accepted in the Joint Program in Journalism are advised to purchase an industry standard laptop and obtain designated software and hardware.

- Computer: 13-inch Apple MacBook Pro capable of running the current version of Adobe software.
- Software: Microsoft Office Suite (Word, Excel, Powerpoint), 2010 or more recent version, and Adobe Photoshop (most recent version).
- For questions regarding camera equipment, please contact the Centennial College Program Coordinator, Prof. Tim Doyle: TDoyle@centennialcollege.ca

The Journalism Study Guide, please visit the following [website](#).

Enrolment Requirements

This program has limited enrolment. Students with a CGPA of 2.0 or above are able to apply after completing [JOUA01H3](#), [JOUA02H3](#), and [MDSA01H3](#).

Students must maintain a Cumulative Grade Point Average (CGPA) of 2.0 or higher to remain in the program.

Program Requirements

This program requires the completion of at least 14.0 credits, as indicated below:

1. First Year (2.0 credits):

Introductory Journalism Courses (1.0 credit)

[JOUA01H3](#) Introduction to Journalism and News Literacy I

[JOUA02H3](#) Introduction to Journalism II

Media Studies Courses (1.0 credit)

[MDSA01H3](#) Introduction to Media Studies

[MDSA12H3](#) Writing for Media Studies

Note: Courses for Year 1 of the program are taught on the UTSC Campus.

2. Second Year (2.5 credits):

Journalism Core Courses

[JOURB01H3](#) Covering Immigration and Transnational Issues

[JOURB02H3](#) Critical Journalism

[JOURB24H3](#) Journalism in the Age of Digital Media

[JOURB39H3](#) Fundamentals of Journalistic Writing

0.5 credits from the following: [MDSB05H3](#) or [MDSB25H3](#)

Note: Courses for Year 2 of the program are taught on the UTSC Campus.

3. Third Year (6.5 credits):

Journalism Application Courses

(a) Centennial College Group 1 (2.5 credits)

*[JOUA06H3](#) Contemporary Issues in Law and Ethics

*[JOURB11H3](#) News Reporting

*[JOURB14H3](#) Mobile Journalism

*[JOURB18H3](#) Visual Storytelling: Photography and Videography

*[JOURB19H3](#) Data Management and Presentation

*A minimum grade of 60% is required in these courses to pass and maintain standing in the program.

Note: students will be eligible to enrol in Centennial College Group 1 courses after successfully completing at least 10.0 credits at the University of Toronto Scarborough (or obtaining permission of the Program Director), including [JOUA01H3](#), [JOUA02H3](#), [MDSA01H3](#), [JOURB01H3](#), [JOURB02H3](#), [JOURB24H3](#), [JOURB39H3](#).

(b) Centennial College Group 2 (2.5 credits)

*[JOURB20H3](#) Interactive: Data and Analytics

*[JOURC18H3](#) Storyworks

*[JOURC19H3](#) Social Media and Mobile Storytelling

*[JOURC21H3](#) Podcasting

*[JOURC22H3](#) Advanced Video and Documentary Storytelling

*A minimum grade of 60% is required in these courses to pass and maintain standing in the program.

Note: students will be eligible to enrol in Centennial College Group 2 courses after successfully completing the courses from Centennial College Group 1 above.

Advanced Journalism Application Courses

(c) Centennial College Group 3, Summer Semester (1.5 credits)

*[JOUB03H3](#) Business of Journalism

*[JOUC13H3](#) Entrepreneurial Reporting

*[JOUC25H3](#) Field Placement

*A minimum grade of 60% is required in these courses to pass and maintain standing in the program.

Notes:

- Students will be eligible to enrol in Centennial College Group 3 courses after successfully completing the courses from Centennial College Group 2 above.
- Courses for Year 3 of the program are taught at the Centennial College Story Arts Centre in East York. Students are advised that, when they are taking courses at Centennial College, they should not also enrol in courses at UTSC.

4. Fourth Year (3.0 credits):

Senior Journalism Studies Courses

* 2.5 credits at the C- or D-level in MDS or JOU courses, of which at least 0.5 credit must be at the D-level.

* [JOUR10H3](#) Senior Seminar in Journalism

Note: courses for Year 4 of the program are taught on the UTSC campus

Calendar Section: [Journalism](#), [Joint Programs](#)

SPECIALIST (JOINT) PROGRAM IN MUSIC INDUSTRY AND TECHNOLOGY - SCSPMIT

[The Specialist in Music Industry and Technology will be available for first enrolment in September 2024.]

The Specialist (Joint) program in Music Industry and Technology is a 4-year, undergraduate Joint program that will allow students to earn an Honours Bachelor of Arts (H.B.A.) degree from the University of Toronto and an Ontario College Certificate in Music Business and Technology from Centennial. The Specialist (Joint) program in Music Industry and Technology aims to provide long-term career preparation by offering practical, career-oriented courses in music business and technology, as well as their industry connections, in order to meet the needs of students who seek a combination of broad-based knowledge that can adapt to the rapidly changing landscape of music, business, and technology and career-ready skills.

This program has limited enrolment. In addition to meeting the 2.0 CGPA requirement, applicants must fill out a joint program application form, which will be made available on ACM website closer to the enrollment timeline.

The program requires 15.5 credits, of which 7.5 credits are taught at UTSC and 8.0 credits are taught at Centennial. The program takes four years (including one spring internship) to complete. In addition to attaining an Honours BA from UTSC, students will also qualify for the Ontario College Certificate in Music Business and Technology. Students will be able to choose from two possible Certificate options, depending on their course selections in the program:

1. Audio Engineering: this track focusses on audio production; or
2. Music Business: this track focuses on management, marketing, publishing, and licensing.

Students must choose either the Audio Engineering or Music Business track in Year 2 of the program, and will not be able to change tracks without adding additional time to degree completion. Please consult with ACM Program Manager if you intend to complete both tracks. Note: Students will indicate to ACM Program Manager their preference before taking Winter courses.

Courses in this Specialist (Joint) program are taught at the UTSC campus, the Centennial College Story Arts Centre campus (located at 951 Carlaw Ave., in East York), and the Centennial Performing Arts Centre (located at 2200 Eglinton Ave, East., in Scarborough). Students will begin the program by taking courses on the UTSC campus, then spend three consecutive sessions at Centennial College – Winter of Year 2, and Year 3 (Fall, and Winter) – followed by a required internship in Winter (March-April) of Year 3. Students complete the program by taking courses on the UTSC campus.

Notes:

1. A minimum grade of 60% is required in the Centennial College courses to pass and maintain standing in the program.
2. Students at Centennial College must be enrolled on a full-time basis.

3. Courses at Centennial have a technology requirement. Please check with the ACM Program Manager for the latest specifications.
4. Students must maintain a Cumulative Grade Point Average (CGPA) of 2.0 or higher to remain in the program. Students whose CGPA falls below 2.0 will be removed from the Program. Students removed from the program, for this reason, may request reinstatement if they complete at least 2.0 credits (none of which can be designated as CR/NCR) in the following session and raise their CGPA to at least 2.0. This opportunity will be provided only once.

Enrolment in this program is limited. Although students will enter directly from high-school, there is also a pathway for students who have already begun their studies at UTSC.

Direct from high-school:

- Students enrolling directly from high school are admitted on the basis of academic performance and the information provided in a Supplementary Application form (SAF).

Current UTSC students:

- Current UTSC students with a CGPA of at least 2.0 may apply to the program, after they have completed 4.0 credits, and must submit a Supplementary Application form (SAF). Students may apply until they have completed up to 10.0 credits, but once they have completed more than 10.0 credits will not be considered for admission.
- Admission will be based on the grades received and information in the SAF. Students should request the program on ACORN and submit the SAF by the specified application deadline; consult the Music and Culture website for details.
- In order to ensure degree completion in four years, students should ensure they complete the first 2.0 credits of the program ([MUZA80H3](#), [VPAA10H3](#), and 1.0 credit in performance courses) in their first year of studies.

Students must complete a total of 15.5 credits as follows.

1. First Year (2.5 credits; offered at UTSC):

[MUZA80H3](#) Foundations in Musicianship

[MUZA81H3](#) Introduction to Music Industry and Technology (*will be available in Fall 2024*)

[VPAA10H3](#) Introduction to Arts and Media Management

and 1.0 credit in performance ensembles* (Concert Choir, Concert Band, String Orchestra, Small Ensembles)

*Students can register for the ensemble of their choice. Students who play electric or electronic instruments should register for Small Ensembles. For additional information, see the [Music and Culture program page](#).

Note: Courses for Year 1 of the program are taught on the UTSC Campus.

2. Second Year (4.5 credits):

Fall Session (2.0 credits; offered at UTSC)

[MUZB80H3](#) Developing Musicianship

[MUZB40H3](#) Music and Technology

[MUZB41H3](#) DJ Cultures: Analogue Innovations, Digital Aesthetics

and 0.5 credit in performance ensembles* (Concert Choir, Concert Band, String Orchestra, Small Ensembles)

*Students can register for the ensemble of their choice. Students who play electric or electronic instruments should register for Small Ensembles. For additional information, see the [Music and Culture program page](#).

Note: Courses for Fall session of the program are taught on the UTSC Campus.

Winter Session – Group A (2.5 credits; offered at Centennial College)

[MBTB13H3](#) Songwriting 2

[MBTB41H3](#) Introduction to Audio Engineering

[MBTB50H3](#) Music Business Fundamentals

and 1.0 credit in track-specific courses, as follows:

- Students pursuing the Audio Engineering Certificate** must complete: [MBTC62H3](#) Advanced Sound Mixing and Editing
[MBTC63H3](#) Advanced Sound Production and Recording
- Students pursuing the Music Business Certificate** must complete: [MBTC70H3](#) Copyright, Royalties, Licensing, and Publishing
[MBTC72H3](#) Advanced Music Business

** Students must choose either Audio Engineering OR Music Business. This choice affects courses in Year 3; **students are cautioned that they cannot switch tracks.**

Note: Courses for the Winter session are taught at the Centennial College Performing Arts Centre (2200 Eglinton Ave East,

Scarborough) and Story Arts Centre (951 Carlaw Ave, Toronto). Students cannot enroll in both institutions at the same time; i.e. students taking courses at Centennial College cannot enroll in courses at UTSC.

3. Third Year (5.5 credits):

Fall Session – Group B (2.5 credits; offered at Centennial College)

[Note: students will be eligible to enrol in these courses after successfully completing all courses in Group A]

[MBTB30H3](#) Art of Performance

[MBTB51H3](#) Musical Entrepreneurship

[[MBTB11H3](#) Orchestral Arranging or [MBTB12H3](#) Vocal Arranging]

and 1.0 credit in track-specific courses, as follows:

- Students pursuing the Audio Engineering Certificate must complete: [MBTC60H3](#) Live Sound Engineering
[MBTC66H3](#) Studio Session Management
- Students pursuing the Music Business Certificate must complete: [MBTC71H3](#) Music Marketing and Social Media
[MBTC73H3](#) Artist Management and Promotion

Winter Session– Group C (2.5 credits; offered at Centennial College)

[Note: students will be eligible to enrol in these courses after successfully completing all courses in Group B]

[MBTC52H3](#) Contemporary Music Industry Issues

[MBTC98H3](#) Music Career Development

and 1.5 credits selected from the following:

[MBTC67H3](#) Audio Mastering

[MBTC68H3](#) Audio Engineering for Gaming and VR

[MBTC74H3](#) Music Supervision and Consulting

[MBTC75H3](#) Music Journalism

[MBTC82H3](#) Indie Artist Development

Winter Session – Group D (0.5 credit)

[Note: students will be eligible to enrol in these courses after successfully completing all courses in Group C]

[MBTD99H3](#) Field Placement***

***Note: this 6-week placement takes place in March-April

Note: Courses for Year 3 of the program are taught at the Centennial College Performing Arts Centre (2200 Eglinton Ave East, Scarborough) and Story Arts Centre (951 Carlaw Ave, Toronto). Students are advised that, when they are taking courses at Centennial College, they should not also enroll in courses at UTSC.

4. Fourth Year (3.0 credits; offered at UTSC):

[MUZB81H3](#) The Independent Music-Maker

[MUZC41H3](#) Digital Music Creation

[MUZC21H3](#) Musical Diasporas

[MUZC43H3](#) Music, Technologies, Media

[MUZC42H3](#) Creative Audio Design Workshop

[MUZD80H3](#) Music and Culture Senior Project Note: courses for Year 4 of the program are taught on the UTSC campus

Calendar Section: [Music Industry and Technology](#), [Joint Programs](#)

SPECIALIST (JOINT) PROGRAM IN PARAMEDICINE (SCIENCE) - SCSPEPMD

Supervisor: W. Tavares paramedicine@utsc.utoronto.ca

The Specialist (Joint) Program in Paramedicine is administered by the Department of Health and Society. Students who complete the requirements of the program will also qualify for the Paramedic Diploma from Centennial College. Students who have completed the requirements for Centennial's diploma are eligible to take the Ministry of Health exams required to qualify as a Primary Care Paramedic.

Enrolment Requirements

This program has limited enrolment. Applicants must fill out a Paramedicine Declaration form. Prior to taking courses at Centennial College, students must also fill out a medical certificate and have current qualifications in CPR and standard first

aid. Other non-academic requirements such as a vulnerable sector police check, fitness standards and face mask fit certification will also ultimately be required. Additional details regarding these requirements may be found at Centennial's website. Applicants may arrange to complete some of these requirements during their first year of study at the University of Toronto Scarborough. For more information on admission and deadlines, see the [Joint Programs with Centennial College](#) section of this *Calendar*.

Program Requirements

This program requires the completion of 16.5 credits. Including electives, students should take 2.5 credits in each semester of their four year degree.

Note: three of the PMD courses are 1.0 credit (Y courses) rather than 0.5 credit (H courses).

1. 1.0 Credit of Introductory Biology Courses

[BIOA01H3](#) Life on Earth: Unifying Principles

[BIOA02H3](#) Life on Earth: Form, Function and Interactions

2. 1.5 Credits of Core Biology Courses

[BIOB10H3](#) Cell Biology

[BIOB11H3](#) Molecular Aspects of Genetic Processes

[BIOB34H3](#) Animal Physiology

3. 1.5 Credits of Foundational Biology Courses

[BIOC17H3](#) Microbiology

[[BIOC21H3](#) Vertebrate Histology: Cells and Tissues or [BIOC32H3](#) Human Physiology I]

[BIOC34H3](#) Human Physiology II

4. 1.0 Credit of Advanced Biology Courses

Choose From:

[BIOD17H3](#) Seminars in Cellular Microbiology

[BIOD26H3](#) Fungal Biology and Pathogenesis

[BIOD29H3](#) Pathobiology of Human Disease

[BIOD33H3](#) Comparative Animal Physiology

[BIOD43H3](#) Animal Movement and Exercise

[BIOD65H3](#) Pathologies of the Nervous System

[BIOD96Y3](#) Directed Research in Paramedicine

5. 1.0 Credit of Introductory Chemistry Courses

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding

[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms

6. 1.0 Credit of Introductory Psychology Courses

[PSYA01H3](#) Introduction to Biological and Cognitive Psychology

[PSYA02H3](#) Introduction to Clinical, Developmental, Personality and Social Psychology

7. 1.0 Credit of B-Level Psychology Courses

[PSYB20H3](#) Introduction to Developmental Psychology

[PSYB32H3](#) Introduction to Clinical Psychology

8. 1.0 Credit of Statistics/Data Analysis Courses

[[STAB22H3](#) Statistics I or [PSYB07H3](#) Data Analysis in Psychology]

[PSYC08H3](#) Advanced Data Analysis in Psychology

9. 7.5 Credits of Paramedicine Courses

*[PMDB22H3](#) Pre-Hospital Care 1: Theory and Lab

*[PMDB25H3](#) Therapeutic Approaches to Behaviour in Crisis

*[PMDB30H3](#) Alterations of Human Body Function I

*[PMDB32Y3](#) Pre-Hospital Care 2: Theory, Lab and Clinical

*[PMDB33H3](#) Anatomy

*[PMDB36H3](#) Pharmacology for Allied Health Pre-requisite

*[PMDB41H3](#) Professional Issues, Research and Leadership

*[PMDC40H3](#) Alterations in Human Body Function II

*[PMDC42Y3](#) Pre-Hospital Care 3: Theory, Lab and Field

*[PMDC43H3](#) Medical Directed Therapeutics and Paramedic Responsibilities

*[PMDC54Y3](#) Pre-Hospital Care 4: Theory, Lab and Field

*[PMDC56H3](#) Primary Care Practice Integration and Decision Making

*A grade of 60% is required in these courses both to pass the course and to maintain standing in the program. All PMD courses are taught at Centennial College. Note, some PMD courses require that 60% be achieved in all components of the course (i.e., lecture component, practical component, and clinical-placement component).

Note: In order to remain in the program, students must typically maintain a cumulative GPA of at least 2.0. Students whose cumulative GPA falls below 2.0 should consult the program supervisor to discuss their options. Please also note, space in some Centennial College courses is limited. Students who must repeat one of these courses and whose cumulative GPA has fallen below 2.0 will be allowed to register in these courses only if space permits.

Suggested Course Sequence

Year 1: Fall Semester*

1. [BIOA01H3](#) Life on Earth: Unifying Principles
2. [CHMA10H3](#) Introductory Chemistry I: Structure and Bonding
3. [PSYA01H3](#) Introduction to Biological and Cognitive Psychology

Year 1: Winter Semester*

1. [BIOA02H3](#) Life on Earth: Form, Function and Interactions
2. [CHMA11H3](#) Introductory Chemistry II; Reactions and Mechanisms
3. [PSYA02H3](#) Introduction to Clinical, Developmental, Personality and Social Psychology

*In Year 1 students must also complete 0.5 credit in statistics [[STAB22H3](#) Statistics I or [PSYB07H3](#) Data Analysis in Psychology].

Year 2: Fall Semester

1. [BIOB10H3](#) Cell Biology
2. [PMDB33H3](#) Anatomy
3. [PMDB22H3](#) Pre-Hospital Care 1: Theory and Lab
4. [PMDB25H3](#) Therapeutic Approaches to Behaviour in Crisis
5. [PMDB41H3](#) Professional Issues, Research and Leadership

Year 2: Winter Semester

1. [BIOB11H3](#) Molecular Aspects of Genetic Processes
2. [PMDB30H3](#) Alterations of Human Body Function I
3. [PMDB32Y3](#) Pre-Hospital Care 2: Theory, Lab and Clinical
4. [PMDB36H3](#) Pharmacology for Allied Health Pre-requisite

Year 3: Fall Semester

1. [BIOB34H3](#) Animal Physiology
2. [PMDC40H3](#) Alterations in Human Body Function II
3. [PMDC42Y3](#) Pre-Hospital Care 3: Theory, Lab and Field
4. [PMDC43H3](#) Medical Directed Therapeutics and Paramedic Responsibilities

Year 3: Winter Semester

1. [BIOC17H3](#) Microbiology
2. [BIOC34H3](#) Human Physiology II
3. [PMDC54Y3](#) Pre-Hospital Care 4: Theory, Lab and Field
4. [PMDC56H3](#) Primary Care Practice Integration and Decision Making

Year 4: Fall Semester

1. [BIOC21H3](#) Vertebrate Histology: Cells and Tissues or [BIOC32H3](#) Human Physiology I
2. [PSYB20H3](#) Introduction to Developmental Psychology
3. [PSYB32H3](#) Abnormal Psychology
4. [[BIOD33H3](#) Comparative Animal Physiology or [BIOD65H3](#) Pathologies of the Nervous System or [BIOD26H3](#) Fungal Biology and Pathogenesis or [BIOD96Y3](#) Directed Research in Paramedicine*]

Year 4: Winter Semester

1. [PSYC08H3](#) Advanced Data Analysis in Psychology
2. [BIOD17H3](#) Seminars in Cellular Microbiology or [BIOD43H3](#) Animal Movement and Exercise or [BIOD29H3](#) Pathobiology of Human Disease
3. 0.5 credits of elective courses

*Students may take any 2 of the D-level courses listed above to meet program requirements. The sequence here merely reflects the current scheduling of courses in the various sessions.

Calendar Section: [Paramedicine](#), [Health Studies](#), [Joint Programs](#)

SPECIALIST PROGRAM IN ARTS MANAGEMENT - Field Placement Stream (ARTS) - SCSPE1180

ACM Program Manager: acm-pa@utsc.utoronto.ca

While a majority of the academic work in the program is based on the not-for-profit arts model, the skills that UTSC's arts management students develop are transferable skills: critical thinking, organizational development, marketing, fundraising, public relations and public policy can be applied to many fields, and graduates may eventually opt to work in for-profit cultural industries such as commercial music, film and television, or even non-arts sectors that require similar abilities. For further information, please visit the Arts Management [website](#).

The **Field Placement Stream** of the program is designed to enhance the students' understanding of Arts Management through substantial exposure to its practice in a minimum of two 300-hour not-for-credit placements.

Enrolment Requirements

Enrolment in the program is limited and entry is competitive. Admissions are granted on the basis of applicants' academic performance, background in one or more of the arts, and demonstrated interest and potential ability in Arts Management as discerned through an interview. For the Field Placement Stream, students must have a minimum cumulative GPA of 3.0, both overall and in Arts Management-specific courses.

Program Requirements

This program requires the completion of a total of 15.0 credits. Students complete a core of 6.0 credits in Arts Management courses, 1.5 credits in Management courses, 6.0 credits in one or more arts discipline(s), and 1.5 credits specific to either the Standard Stream or the Field Placement Stream.

Students must maintain a minimum cumulative grade point average (CGPA), both overall and in Arts Management-specific courses: 2.5 for the Standard Stream and 3.0 for the Field Placement Stream. Continuous consultation with the Program Director is strongly encouraged for all students in each year of their program.

Core (13.5 credits)

1. Arts Management Courses (6.0 credits)

[ACMB10H3](#) Equity and Diversity in the Arts
[VPAA10H3](#) Introduction to Arts and Media Management
[VPAA12H3](#) Developing Audiences, Resources, and Community
[VPAB13H3](#) Financial Management for Arts Managers
[VPAB16H3](#) Managing and Leading in Cultural Organizations
[VPAB17H3](#) From Principles to Practices in Arts Management
[VPAC13H3](#) Planning and Project Management in the Arts and Cultural Sector
[VPAC15H3](#) Cultural Policy
[VPAC16H3](#) Contracts and Copyright
[VPAC17H3](#) Marketing in the Arts and Media
[VPAC18H3](#) Raising Funds in Arts and Media
[VPAD12H3](#) Senior Seminar in Arts and Media Management

2. Management Courses (1.5 credits)

[MGTA01H3](#) Introduction to Business
[MGTA02H3](#) Managing the Business Organization

0.5 credit from Management or Economics at the C- or D-level (unless an alternative is formally approved in advance by the Arts Management Program Director)

Note: Arts Management students have access to the following Management courses via ROSI: [MGHC23H3](#), [MGMC30H3](#), [MGTC33H3](#), [MGTC44H3](#) and [MGTD45H3](#). Arts Management students interested in other Management courses must approach the Arts Management Program Director early in the enrolment period to discuss suitability and to request access. Appropriate prerequisite knowledge is required for all Management courses.

3. Arts Courses (6.0 credits)

[6.0 credits from within the Major program in one of the artistic disciplines offered by the Department of Arts, Culture and Media (Art History, Music and Culture, Studio Art, and Theatre & Performance Studies). At least 1.0 credit of these must be at the C- or D-level.] OR [With the prior written approval of the Arts Management Program Director, students may tailor a coherent group of courses to accommodate their special interests and particular career goals. At least 1.0 credit must be at the C- or D-level.]

Note: Because the completion of a Major program in a chosen artistic field is particularly valuable for students contemplating graduate studies and certain careers related to that subject, students may wish to add the Major Subject POST and take additional Arts courses to fulfil the Major requirement. Alternatively, one or more Minor program(s) may be valuable in certain fields of work and further studies.

Field Placement Stream

4. Work Term Placements

In addition to the Core requirements above, students must complete a minimum of two 300-hour not-for-credit work term placements:

Field Placement I

Field Placement II

5. (1.5 credits)

[ACMC01H3](#) ACMEE Applied Practice I (to be taken concurrently with, or after, Field Placement I)

[ACMD01H3](#) ACMEE Applied Practice II (to be taken concurrently with, or after Field Placement II)

and

0.5 credit from the following:

[ACMD02H3](#) ACMEE Applied Practice III (to be taken in connection with an optional "Field Placement III")

[VPAB18H3](#) Becoming a Producer

[VPAC21H3](#) Special Topics in Arts Management I

[VPAC22H3](#) Special Topics in Arts Management II

[VPAD07H3](#) Agency and Pluralism in Social & Cultural Transformations

[VPAD14H3](#) Independent Studies in Arts Management

Courses in the first two years of the program

The first year of study would normally consist of 5.0 credits (10 courses - five in each of the Fall and Winter semesters) including [VPAA10H3](#), [VPAA12H3](#), [MGTA01H3](#), [MGTA02H3](#), at least three courses from the "Arts Courses" section of the program requirements, and electives. [ACMB01H3](#) can be taken as one of the "Arts Courses" in the Winter semester of the first year, or during the second year. The second year of study would normally consist of 5.0 full credits (10 courses) including [VPAB13H3](#), [VPAB16H3](#) and [VPAB17H3](#), [ACMB01H3](#) (if not already taken, B-level courses from the "Arts Courses" program requirement, and electives. Arts Management students are encouraged to consider [ACMB02H3](#) as one of their elective choices.

Calendar Section: [Arts Management](#)

SPECIALIST PROGRAM IN ARTS MANAGEMENT - Standard Stream (ARTS) - SCSPE1190

ACM Program Manager: acm-pa@utsc.utoronto.ca

While a majority of the academic work in the program is based on the not-for-profit arts model, the skills that UTSC's arts management students develop are transferable skills: critical thinking, organizational development, marketing, fundraising, public relations and public policy can be applied to many fields, and graduates may eventually opt to work in for-profit cultural industries such as commercial music, film and television, or even non-arts sectors that require similar abilities. For further information, please visit the Arts Management [website](#).

The **Standard Stream** of the program is designed to give students a broad and deep understanding of Arts Management at the undergraduate level through academic courses but without full-field placements. This stream is well suited to students who have past or alternate practical experience in arts management.

Enrolment Requirements

Enrolment in the program is limited and entry is competitive. Admissions are granted on the basis of applicants' academic performance, background in one or more of the arts, and demonstrated interest and potential ability in Arts Management as discerned through an interview. For the Standard Stream, students must have a minimum cumulative GPA of 2.5, both overall and in Arts Management-specific courses.

Program Requirements

This program requires the completion of a total of 15.0 credits. Students complete a core of 6.0 credits in Arts Management courses, 1.5 credits in Management courses, 6.0 credits in one or more arts discipline(s), and 1.5 credits specific to either the Standard Stream or the Field Placement Stream.

Students must maintain a minimum cumulative grade point average (CGPA), both overall and in Arts Management-specific courses: 2.5 for the Standard Stream and 3.0 for the Field Placement Stream. Continuous consultation with the Program Director is strongly encouraged for all students in each year of their program.

Core (13.5 credits)

1. Arts Management Courses (6.0 credits)

[VPAA10H3](#) Introduction to Arts and Media Management
[VPAA12H3](#) Developing Audiences, Resources, and Community
[VPAB10H3](#) Equity and Inclusivity in Arts and Media Organizations
[VPAB13H3](#) Financial Management for Arts Managers
[VPAB16H3](#) Managing and Leading in Cultural Organizations
[VPAB17H3](#) From Principles to Practices in Arts Management
[VPAC13H3](#) Planning and Project Management in the Arts and Cultural Sector
[VPAC15H3](#) Cultural Policy
[VPAC16H3](#) Contracts and Copyright
[VPAC17H3](#) Marketing in the Arts and Media
[VPAC18H3](#) Raising Funds in Arts and Media
[VPAD12H3](#) Senior Collaborative Projects

2. Management Courses (1.5 credits)

[MGTA01H3](#) Introduction to Business
[MGTA02H3](#) Managing the Business Organization

0.5 credit from Management or Economics at the C- or D-level (unless an alternative is formally approved in advance by the Arts Management Program Director)

Note: Arts Management students have access to the following Management courses via ROSI: [MGHC23H3](#), [MGMC30H3](#), [MGTC33H3](#), [MGTC44H3](#) and [MGTD45H3](#). Arts Management students interested in other Management courses must approach the Arts Management Program Director early in the enrolment period to discuss suitability and to request access. Appropriate prerequisite knowledge is required for all Management courses.

3. Arts Courses (6.0 credits)

[6.0 credits from within the Major program in one of the artistic disciplines offered by the Department of Arts, Culture and Media (Art History, Music and Culture, Studio Art, and Theatre & Performance Studies). At least 1.0 credit of these must be at the C- or D-level.] OR [With the prior written approval of the Arts Management Program Director, students may tailor a coherent group of courses to accommodate their special interests and particular career goals. At least 1.0 credit must be at the C- or D-level.]

Note: Because the completion of a Major program in a chosen artistic field is particularly valuable for students contemplating graduate studies and certain careers related to that subject, students may wish to add the Major Subject POST and take additional Arts courses to fulfil the Major requirement. Alternatively, one or more Minor program(s) may be valuable in certain fields of work and further studies.

Standard Stream

In addition to the Core requirements above, students must complete 1.5 credits from the following:

4. (1.5 credits)

Choose from the following:

[VPAB18H3](#) Becoming a Producer
[VPAC21H3](#) Special Topics in Arts Management I
[VPAC22H3](#) Special Topics in Arts Management II
 (VPAD07H3) Agency and Pluralism in Social & Cultural Transformations
[VPAD14H3](#) Independent Studies in Arts Management

Note: one of the D-level choices is required if a D-level course is not taken as a part of component 2 (Management Courses) or component 3 (Arts Courses).

Courses in the first two years of the program

The first year of study would normally consist of 5.0 credits (10 courses - five in each of the Fall and Winter semesters) including [VPAA10H3](#), [VPAA12H3](#), [MGTA01H3](#), [MGTA02H3](#), at least three courses from the "Arts Courses" section of the program requirements, and electives. [ACMB01H3](#) can be taken as one of the "Arts Courses" in the Winter semester of the first year, or during the second year. The second year of study would normally consist of 5.0 full credits (10 courses) including [VPAB13H3](#), [VPAB16H3](#) and [VPAB17H3](#), [ACMB01H3](#) (if not already taken, B-level courses from the "Arts Courses" program requirement, and electives. Arts Management students are encouraged to consider [ACMB02H3](#) as one of their elective choices.

Calendar Section: [Arts Management](#)

SPECIALIST PROGRAM IN CHEMISTRY (SCIENCE) - SCSPE1376

For an updated list of Program Supervisors, please visit the [Chemistry website](#).

This program offers students a deep theoretical and practical learning experience in all aspects of modern chemistry. The first year of the program emphasizes learning fundamentals across various disciplines, including biology, chemistry, physics, and math. As students progress into upper years, this knowledge is applied to specialized courses focusing on the sub-disciplines of chemistry, including organic, inorganic, analytical, physical, and environmental chemistry. Students in this program will have the opportunity to contribute to the creation of scientific knowledge by participating in a directed research project in their fourth year. This program is ideally suited for students who wish to pursue graduate studies in chemistry or a related discipline, or to work in chemistry-related industries.

The chemistry specialist program is accredited by the Canadian Society for Chemistry (CSC). It meets the national standards of education required by the CSC, ensuring that graduating students possess skills in both the core chemical concepts and practical laboratory skills that are necessary to thrive in today's workforce. Graduates of these programs will receive a certificate stating that they have completed a nationally accredited chemistry program.

Enrolment Requirements

Students may apply to this program after completing at least 4.0 credits, including [CHMA10H3](#), [[CHMA11H3](#) or [CHMA12H3](#)], [PHYA10H3](#), [PHYA21H3](#), and 1.0 credit in either [MATA23H3](#), [MATA30H3](#) or [MATA36H3](#) with a cumulative grade point average (CGPA) of at least 2.0. Application for admission to the program is made to the registrar through ROSI in April/May and July/August. See the UTSC Office of the Registrar's website for information on the program (Subject POST) selection.

Program Requirements

The Program requires completion of 14.0 credits as follows:

First Year:

1. 4.0 credits from the following

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding

[[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms or [CHMA12H3](#) Advanced General Chemistry]

[MATA23H3](#) Linear Algebra I

[MATA30H3](#) Calculus I for Physical Sciences

[MATA36H3](#) Calculus II for Physical Sciences

[PHYA10H3](#) Physics I for the Physical Sciences

[PHYA21H3](#) Physics II for the Physical Sciences

[STAB22H3](#) Statistics I

Second Year:

2. 4.0 credits from the following

[CHMB16H3](#) Techniques in Analytical Chemistry

[CHMB21H3](#) Chemical Structure and Spectroscopy

[CHMB23H3](#) Introduction to Chemical Thermodynamics and Kinetics: Theory and Practice

[CHMB31H3](#) Introduction to Inorganic Chemistry

[CHMB41H3](#) Organic Chemistry I

[CHMB42H3](#) Organic Chemistry II

[CHMB62H3](#) Introduction to Biochemistry

[MATB41H3](#) Techniques of Calculus of Several Variables I

Third Year:

3. 3.0 credits from the following

[CHMC11H3](#) Principles of Analytical Instrumentation

[CHMC16H3](#) Analytical Instrumentation

[[CHMC20H3](#) Intermediate Physical Chemistry or [CHMC21H3](#) Topics in Biophysical Chemistry]

[CHMC31Y3](#) Intermediate Inorganic Chemistry

[CHMC42H3](#) Organic Synthesis

Fourth Year:

4. 3.0 credits from the following

[PSCD02H3](#) Current Questions in Mathematics and Science

and

0.5 credit in any C-level or 300-level CHM course not already taken

and

2.0 credits in any D-level or 400-level CHM course including one of the following:

[CHMD90Y3](#) Directed Research

[CHMD91H3](#) Directed Research

[CHMD92H3](#) Advanced Chemistry Laboratory Course

Calendar Section: [Chemistry](#)

SPECIALIST PROGRAM IN CITY STUDIES (ARTS) - SCSPECIT

The Specialist program in City Studies (BA) will provide students with the skills and knowledge they will need to pursue specialized training at the graduate level in fields like public policy and municipal governance, urban planning, and community development, as well as other city-focused fields of studies. Students in the Specialist program will also have the opportunity to develop in-depth theoretical and conceptual knowledge in applied urban studies, quantitative and qualitative research and GIS skills, practical skills such as project management, facilitation and community consultation, and communication skills needed to succeed in a wide variety of urban professions. Students are encouraged to discuss the selection and sequencing of courses with the Program Advisor or Associate Chair (City Studies).

Enrolment Requirements

Enrolment in the Specialist is limited. Students may apply to enter the program after they have completed at least 4.0 credits, including the courses listed under Requirement 1 of the program.

Admission is based on overall academic performance and grades in the courses in Requirement 1 of the program; students must achieve a minimum CGPA of 2.5. For students applying with more than 8.0-10.0 credits, admission will be on the basis of CGPA in all City Studies (CIT) courses taken. Decisions regarding program admissions will be made only twice a year, in May and August, by the City Studies Supervisor of Studies, and will be based on student requests submitted to the Registrar through ROSI.

Program Requirements:

This program requires the completion of 12.0 credits as follows:

1. Foundations of City Studies (1.0 credit):

[CITA01H3](#)/(CITB02H3) Foundations of City Studies

[CITA02H3](#) Studying Cities

2. Core courses (1.5 credits as from the following):

[CITB01H3](#) Canadian Cities and Planning

[CITB03H3](#) Social Planning and Community Development

[CITB04H3](#) City Politics

[CITB08H3](#) Economy of Cities

3. Research Methods (2.0 credits):

[GGRA30H3](#) Geographic Information Systems (GIS) and Empirical Reasoning

[STAB23H3](#) Introduction to Statistics for the Social Sciences (or equivalent)

and

1.0 credits from the following:

[GGRB30H3](#) Fundamentals of GIS I

[GGRB03H3](#) Writing Geography

[GGRC32H3](#) Essential Spatial Analysis

[GGRC31H3](#) Qualitative Geographical Methods: Place and Ethnography

[GGRC42H3](#) Making Sense of Data: Applied Multivariate Analysis

4. City Studies Applications (3.5 credits from among the following):

[CITC01H3](#) Urban Communities and Neighbourhoods Case Study

[CITC02H3](#) Placements in Community Development

[CITC03H3](#) Housing Policy and Planning

[CITC04H3](#) Current Municipal and Planning Policy and Practice in Toronto

[CITC07H3](#) Urban Social Policy

[CITC08H3](#) Cities and Community Development

[CITC09H3](#) Introduction to Planning History: Toronto and Its Region

[CITC12H3](#) City Structures, Problems, and Decisions: Field Research in Urban Policy Making

[CITC14H3](#) Environmental Planning

[CITC15H3](#) Money Matters: How Municipal Finance Shapes the City

[CITC16H3](#) Planning and Governing the Metropolis

[CITC17H3](#) Civic Engagement in Urban Politics

[CITC18H3](#) Transportation Policy Analysis

5. Approaches to Cities (2.0 credits from among the following)*:

[GGRB02H3](#) The Logic of Geographic Thought

[GGRB05H3](#) Urban Geography

[GGRB13H3](#) Social Geography

[GGRC02H3](#) Population Geography

[GGRC10H3](#) Urbanization and Development

[GGRC11H3](#) Current Topics in Urban Geography

[GGRC12H3](#) Transportation Geography

[GGRC13H3](#) Urban Political Geography

[GGRC27H3](#) Location and Spatial Development

[GGRC33H3](#) The Toronto Region

[GGRC40H3](#) Megacities and Global Urbanization

[GGRC43H3](#) Social Geographies of Street Food

[GGRC48H3](#) Geographies of Urban Poverty

[POLB56H3](#) Critical Issues in Canadian Politics

[POLB57H3](#) The Canadian Constitution and the Charter of Rights

[POLC53H3](#) Canadian Environmental Policy

[PPGB66/PPGC66H3](#)/(POLC66H3) Public Policy Making

[PPGC67H3](#)/(POLC67H3) Public Policy in Canada

[SOCB44H3](#) Sociology of Cities and Urban Life

***Note:** these courses may have prerequisites that are not included in this program

6. City Studies Workshop (1.0 credit):

[CITD05H3](#) City Studies Workshop I

[CITD06H3](#) City Studies Workshop II

7. Advanced Applications (1.0 credit):

[CITD01H3](#) City Issues and Strategies

[CITD10H3](#) Seminar in Selected Issues in City Studies

[CITD12H3](#) Planning and Building Public Spaces in Toronto

[CITD30H3](#) Supervised Research Project

[GGRD14H3](#) Social Justice and the City

Calendar Section: [City Studies](#)

SPECIALIST PROGRAM IN COMPUTER SCIENCE - Comprehensive Stream (SCIENCE) - SCSPE0510

Supervisor of Studies: R. Pancer (416-287-7679) *Email:* pancer@utsc.utoronto.ca

Program Objectives

This program provides a working knowledge of the foundations of computer science: modern computer software and hardware, theoretical aspects of computer science, and relevant areas of mathematics and statistics. It also imparts an appreciation of the discipline's transformative impact on science and society. The program prepares students for further study and for careers in the computing industry. It comprises four streams with different emphases:

The Comprehensive Stream provides a broad and balanced exposure to the discipline. It is the stream best-suited for students planning to pursue graduate study in computer science, but it is also suitable for other career paths.

The structure of the program requirements allows one to easily switch streams until relatively late in the program. Consequently, these streams should not be viewed as rigidly separated channels feeding students to different career paths, but as a flexible structure that provides computer science students guidance in their course selection based on their broad (but possibly fluid) interests.

Enrolment Requirements

Enrolment in the Specialist in Computer Science (all streams) is limited. Students may apply to enter the program after completing 4.0 credits, and must meet the requirements described below:

1. Students already admitted to the UTSC Year 1 Computer Science admissions category:

Required Courses:

Students must have passed the following CSC and MAT courses: [CSCA08H3](#), [CSCA48H3](#), [[CSCA67H3](#) or [MATA67H3](#)], [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#).

Required Grades:

Students that meet all of the following requirements will be admitted to a CS Specialist POST*:

- A cumulative grade point average (CGPA) of at least 2.5 over the following courses: [CSCA48H3](#), CSC/[MATA67H3](#), [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#);
- A final grade of at least B in [CSCA48H3](#); and
- A final grade of at least C- in two of the following: CSC/[MATA67H3](#), [MATA22H3](#), and [MATA37H3](#).

*Students must select **one** stream of the CS Specialist as follows:

- Students can select either the Comprehensive stream or the Software Engineering stream.
- A limited number of students will be admitted to the Information Systems stream, depending on available space.
- Admission to the Entrepreneurship stream will be based in part on submission of a Supplementary Application Form (SAF) available on the Department of Computer and Mathematical Sciences [website](#). Applications for admission will be accepted once per academic year, during the April-May POST admissions round.

2. Students admitted to other UTSC Year 1 admissions categories:

Students that have been admitted to either the UTSC Year 1 Math or UTSC Year 1 Statistics admissions categories are eligible to apply for the Computer Science Specialist POST. Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

Students that have not been admitted to a UTSC Year 1 CMS admissions category (Computer Science, Mathematics, or Statistics) must achieve a final grade of at least A- in both [MATA31H3](#) and CSC/[MATA67H3](#) **the first time they complete these courses** in order to be eligible to apply for a CS Specialist POST. **This is a strict requirement.** Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

For more information about the admission requirements, please visit the following [CMS webpage](#).

To remain in the program, a student must maintain a CGPA of 2.0 or higher throughout the program.

Note: Students admitted to the program after second or third year will be required to pay retroactive deregulated program fees.

Program Requirements

The program requirements comprise a core of 18 courses (9.0 credits), common to all streams and additional requirements which depend on the stream, for a total of 27 courses (13.5 credits) for the Comprehensive, Software Engineering, and Entrepreneurship streams, and 29 courses (14.5 credits) for the Information Systems stream.

Note: Many Computer Science courses are offered both at U of T Scarborough and at the St. George campus. When a course is offered at both campuses in a given session, U of T Scarborough students are expected to take that course at U of T Scarborough. The Department of Computer Science at the St. George campus cannot guarantee space for U of T Scarborough students in their courses, especially those offered at both campuses.

Core (9.0 credits)

1. Writing Requirement (0.5 credit)*

0.5 credit from the following: [ANTA01H3](#), [ANTA02H3](#), [CLAA06H3](#), (CTLA19H3), [CTLA01H3](#), [ENGA10H3](#), [ENGA11H3](#), [ENGB06H3](#), [ENGB07H3](#), [ENGB08H3](#), [ENGB09H3](#), [ENGB17H3](#), [ENGB19H3](#), [ENGB50H3](#), (ENGB51H3), [GGRA02H3](#), [GGRA03H3](#), [GGRB05H3](#), (GGRB06H3), (HISA01H3), (HLTA01H3), [ACMA01H3](#), (HUMA01H3), (HUMA11H3), (HUMA17H3), (LGGA99H3), [LINA01H3](#), [PHLA10H3](#), [PHLA11H3](#), [WSTA01H3](#).

***Note:** It is recommended that this requirement be satisfied by the end of the second year.

2. A-level courses (3.0 credits)

[CSCA08H3](#) Introduction to Computer Science I
[CSCA48H3](#) Introduction to Computer Science II
[CSCA67H3](#) Discrete Mathematics
[MATA22H3](#) Linear Algebra I for Mathematical Sciences
[MATA31H3](#) Calculus I for Mathematical Sciences

[MATA37H3](#) Calculus II for Mathematical Sciences

3. B-level courses (3.5 credits)

[CSCB07H3](#) Software Design
[CSCB09H3](#) Software Tools and Systems Programming
[CSCB36H3](#) Introduction to the Theory of Computation
[CSCB58H3](#) Computer Organization
[CSCB63H3](#) Design and Analysis of Data Structures
[MATB24H3](#) Linear Algebra II
[STAB52H3](#) Introduction to Probability

4. C-level courses (1.5 credits)

[CSCC43H3](#) Introduction to Databases
[CSCC69H3](#) Operating Systems
[CSCC73H3](#) Algorithm Design and Analysis

5. D-level courses (0.5 credit)

[CSCD03H3](#) Social Impact of Information Technology

Comprehensive Stream

This stream requires a total of 27 courses (13.5 credits). In addition to the core requirements 1-5 common to all streams, 9 other distinct courses (4.5 credits) must be chosen to satisfy all of the following requirements:

6. Additional required courses (2.5 credits)

[CSCC24H3](#) Principles of Programming Languages
[CSCC37H3](#) Introduction to Numerical Algorithms for Computational Mathematics
[CSCC63H3](#) Computability and Computational Complexity
[CSCD37H3](#) Analysis of Numerical Algorithms for Computational Mathematics
[MATB41H3](#) Techniques of the Calculus of Several Variables I

7. Electives from courses on computer systems and applications (1.0 credit)

Choose from:

[CSCC01H3](#) Introduction to Software Engineering
[CSCC09H3](#) Programming on the Web
[CSCC10H3](#) Human-Computer Interaction
[CSCC11H3](#) Introduction to Machine Learning and Data Mining
[CSCC46H3](#) Social and Information Networks
[CSCC85H3](#) Fundamentals of Robotics and Automated Systems
[CSCD01H3](#) Engineering Large Software Systems
[CSCD18H3](#) Computer Graphics
[CSCD25H3](#) Advanced Data Science
[CSCD27H3](#) Computer and Network Security
[CSCD43H3](#) Database System Technology
[CSCD58H3](#) Computer Networks
[CSCD70H3](#) Compiler Optimization
[CSCD84H3](#) Artificial Intelligence
CSC320H1 Introduction to Visual Computing
CSC401H1 Natural Language Computing
CSC413H1 Neural Networks and Deep Learning
CSC469H1 Operating Systems Design and Implementation
CSC485H1 Computational Linguistics
CSC488H1 Compilers and Interpreters

8. Electives from courses related to the theory of computing (0.5 credit)

Choose from:

[MATC09H3](#) Introduction to Mathematical Logic
[MATC32H3](#) Graph Theory and Algorithms for its Applications
[MATC44H3](#) Introduction to Combinatorics
[MATD16H3](#) Coding Theory and Cryptography
CSC438H Computability and Logic
CSC448H Formal Languages and Automata
CSC465H Formal Methods in Software Design

9. CSC, MAT, or STA elective (0.5 credit)

Any C- or D-level CSC, MAT, or STA course, excluding [MATC82H3](#), [MATC90H3](#), [STAC32H3](#), [STAC53H3](#) and [STAD29H3](#).

Calendar Section: [Computer Science](#)

SPECIALIST PROGRAM IN COMPUTER SCIENCE - Entrepreneurship Stream (SCIENCE) - SCSPE0805

Supervisor of Studies: R. Pancer (416-287-7679) Email: pancer@utsc.utoronto.ca

Program Objectives

This program provides a working knowledge of the foundations of computer science: modern computer software and hardware, theoretical aspects of computer science, and relevant areas of mathematics and statistics. It also imparts an appreciation of the discipline's transformative impact on science and society. The program prepares students for further study and for careers in the computing industry. It comprises four streams with different emphases:

The Entrepreneurship Stream includes a solid core of computer science and software engineering, while exposing students to the framework and methodologies that underlie the development of innovative technology ideas into viable commercial opportunities. Enrolment into the Entrepreneurship stream will be limited to highly qualified and motivated students, and preference will be given to students enrolled in the Specialist (Co-operative) program.

The structure of the program requirements allows one to easily switch streams until relatively late in the program. Consequently, these streams should not be viewed as rigidly separated channels feeding students to different career paths, but as a flexible structure that provides computer science students guidance in their course selection based on their broad (but possibly fluid) interests.

Enrolment Requirements

Enrolment in the Specialist in Computer Science (all streams) is limited. Students may apply to enter the program after completing 4.0 credits, and must meet the requirements described below:

1. Students already admitted to the UTSC Year 1 Computer Science admissions category:

Required Courses:

Students must have passed the following CSC and MAT courses: [CSCA08H3](#), [CSCA48H3](#), [[CSCA67H3](#) or [MATA67H3](#)], [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#).

Required Grades:

Students that meet all of the following requirements will be admitted to a CS Specialist POST*:

- A cumulative grade point average (CGPA) of at least 2.5 over the following courses: [CSCA48H3](#), CSC/[MATA67H3](#), [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#);
- A final grade of at least B in [CSCA48H3](#); and
- A final grade of at least C- in two of the following: CSC/[MATA67H3](#), [MATA22H3](#), and [MATA37H3](#).

*Students must select **one** stream of the CS Specialist as follows:

- Students can select either the Comprehensive stream or the Software Engineering stream.
- A limited number of students will be admitted to the Information Systems stream, depending on available space.
- Admission to the Entrepreneurship stream will be based in part on submission of a Supplementary Application Form (SAF) available on the Department of Computer and Mathematical Sciences [website](#). Applications for admission will be accepted once per academic year, during the April-May POST admissions round.

2. Students admitted to other UTSC Year 1 admissions categories:

Students that have been admitted to either the UTSC Year 1 Math or UTSC Year 1 Statistics admissions categories are eligible to apply for the Computer Science Specialist POST. Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

Students that have not been admitted to a UTSC Year 1 CMS admissions category (Computer Science, Mathematics, or Statistics) must achieve a final grade of at least A- in both [MATA31H3](#) and CSC/[MATA67H3](#) **the first time they complete these courses** in order to be eligible to apply for a CS Specialist POST. **This is a strict requirement.** Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

For more information about the admission requirements, please visit the following [CMS webpage](#).

To remain in the program, a student must maintain a CGPA of 2.0 or higher throughout the program.

Note: Students admitted to the program after second or third year will be required to pay retroactive deregulated program fees.

Program Requirements

The program requirements comprise a core of 18 courses (9.0 credits), common to all streams and additional requirements which depend on the stream, for a total of 27 courses (13.5 credits) for the Comprehensive, Software Engineering, and Entrepreneurship streams, and 29 courses (14.5 credits) for the Information Systems stream.

Note: Many Computer Science courses are offered both at U of T Scarborough and at the St. George campus. When a course is offered at both campuses in a given session, U of T Scarborough students are expected to take that course at U of T Scarborough. The Department of Computer Science at the St. George campus cannot guarantee space for U of T Scarborough students in their courses, especially those offered at both campuses.

Core (9.0 credits)

1. Writing Requirement (0.5 credit)*

0.5 credit from the following: [ANTA01H3](#), [ANTA02H3](#), [CLAA06H3](#), (CTLA19H3), [CTLA01H3](#), [ENGA10H3](#), [ENGA11H3](#), [ENGB06H3](#), [ENGB07H3](#), [ENGB08H3](#), [ENGB09H3](#), [ENGB17H3](#), [ENGB19H3](#), [ENGB50H3](#), (ENGB51H3), [GGRA02H3](#), [GGRA03H3](#), [GGRB05H3](#), (GGRB06H3), (HISA01H3), (HLTA01H3), [ACMA01H3](#), (HUMA01H3), (HUMA11H3), (HUMA17H3), (LGGA99H3), [LINA01H3](#), [PHLA10H3](#), [PHLA11H3](#), [WSTA01H3](#).

***Note:** It is recommended that this requirement be satisfied by the end of the second year.

2. A-level courses (3.0 credits)

[CSCA08H3](#) Introduction to Computer Science I

[CSCA48H3](#) Introduction to Computer Science II

[CSCA67H3](#) Discrete Mathematics

[MATA22H3](#) Linear Algebra I for Mathematical Sciences

[MATA31H3](#) Calculus I for Mathematical Sciences

[MATA37H3](#) Calculus II for Mathematical Sciences

3. B-level courses (3.5 credits)

[CSCB07H3](#) Software Design

[CSCB09H3](#) Software Tools and Systems Programming

[CSCB36H3](#) Introduction to the Theory of Computation

[CSCB58H3](#) Computer Organization

[CSCB63H3](#) Design and Analysis of Data Structures

[MATB24H3](#) Linear Algebra II

[STAB52H3](#) Introduction to Probability

4. C-level courses (1.5 credits)

[CSCC43H3](#) Introduction to Databases

[CSCC69H3](#) Operating Systems

[CSCC73H3](#) Algorithm Design and Analysis

5. D-level courses (0.5 credit)

[CSCD03H3](#) Social Impact of Information Technology

Entrepreneurship Stream

This stream requires a total of 27 courses (13.5 credits). In addition to the core requirements 1-5 common to all streams, 9 other distinct courses (4.5 credits) must be chosen to satisfy all of the following requirements:

6. Additional required courses (3.0 credits)

[CSCC01H3](#) Introduction to Software Engineering

[CSCC37H3](#) Introduction to Numerical Algorithms for Computational Mathematics

[CSCC63H3](#) Computability and Computational Complexity

[CSCD01H3](#) Engineering Large Software Systems

[CSCD54H3](#) Technology Innovation and Entrepreneurship

[CSCD90H3](#) The Startup Sandbox

7. Electives from courses in computer science, mathematics, and statistics (1.5 credits)

Choose from:

[CSCC09H3](#) Programming on the Web

[CSCC10H3](#) Human-Computer Interaction

[CSCC11H3](#) Introduction to Machine Learning and Data Mining

[CSCC24H3](#) Principles of Programming Languages

[CSCC46H3](#) Social and Information Networks
[CSCC85H3](#) Fundamentals of Robotics and Automated Systems
[CSCD18H3](#) Computer Graphics
[CSCD25H3](#) Advanced Data Science
[CSCD27H3](#) Computer and Network Security
[CSCD43H3](#) Database System Technology
[CSCD58H3](#) Computer Networks
[CSCD70H3](#) Compiler Optimization
[CSCD84H3](#) Artificial Intelligence
[MATB41H3](#) Techniques of the Calculus of Several Variables I
[STAB57H3](#) Introduction to Statistics
 CSC320H1 Introduction to Visual Computing
 CSC401H1 Natural Language Computing
 CSC413H1 Neural Networks and Deep Learning
 CSC469H1 Operating Systems Design and Implementation
 CSC485H1 Computational Linguistics
 CSC488H1 Compilers and Interpreters

Calendar Section: [Computer Science](#)

SPECIALIST PROGRAM IN COMPUTER SCIENCE - Information Systems Stream (SCIENCE) - SCSPE0455

Supervisor of Studies: R. Pancer (416-287-7679) Email: pancer@utsc.utoronto.ca

Program Objectives

This program provides a working knowledge of the foundations of computer science: modern computer software and hardware, theoretical aspects of computer science, and relevant areas of mathematics and statistics. It also imparts an appreciation of the discipline's transformative impact on science and society. The program prepares students for further study and for careers in the computing industry. It comprises four streams with different emphases:

The Information Systems Stream has a similar focus as the Software Engineering Stream, but it provides additional exposure to certain aspects of business management. It is of special interest to students wishing to pursue careers in technical management but who have a deep interest in the technology.

The structure of the program requirements allows one to easily switch streams until relatively late in the program. Consequently, these streams should not be viewed as rigidly separated channels feeding students to different career paths, but as a flexible structure that provides computer science students guidance in their course selection based on their broad (but possibly fluid) interests.

Enrolment Requirements

Enrolment in the Specialist in Computer Science (all streams) is limited. Students may apply to enter the program after completing 4.0 credits, and must meet the requirements described below:

1. Students already admitted to the UTSC Year 1 Computer Science admissions category:

Required Courses:

Students must have passed the following CSC and MAT courses: [CSCA08H3](#), [CSCA48H3](#), [[CSCA67H3](#) or [MATA67H3](#)], [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#).

Required Grades:

Students that meet all of the following requirements will be admitted to a CS Specialist POST*:

- A cumulative grade point average (CGPA) of at least 2.5 over the following courses: [CSCA48H3](#), CSC/[MATA67H3](#), [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#);
- A final grade of at least B in [CSCA48H3](#); and
- A final grade of at least C- in two of the following: CSC/[MATA67H3](#), [MATA22H3](#), and [MATA37H3](#).

*Students must select **one** stream of the CS Specialist as follows:

- Students can select either the Comprehensive stream or the Software Engineering stream.

- b. A limited number of students will be admitted to the Information Systems stream, depending on available space.
- c. Admission to the Entrepreneurship stream will be based in part on submission of a Supplementary Application Form (SAF) available on the Department of Computer and Mathematical Sciences [website](#). Applications for admission will be accepted once per academic year, during the April-May POST admissions round.

2. Students admitted to other UTSC Year 1 admissions categories:

Students that have been admitted to either the UTSC Year 1 Math or UTSC Year 1 Statistics admissions categories are eligible to apply for the Computer Science Specialist POST. Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

Students that have not been admitted to a UTSC Year 1 CMS admissions category (Computer Science, Mathematics, or Statistics) must achieve a final grade of at least A- in both [MATA31H3](#) and CSC/[MATA67H3](#) **the first time they complete these courses** in order to be eligible to apply for a CS Specialist POST. **This is a strict requirement.** Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

For more information about the admission requirements, please visit the following [CMS webpage](#).

To remain in the program, a student must maintain a CGPA of 2.0 or higher throughout the program.

Note: Students admitted to the program after second or third year will be required to pay retroactive deregulated program fees.

Program Requirements

The program requirements comprise a core of 18 courses (9.0 credits), common to all streams and additional requirements which depend on the stream, for a total of 27 courses (13.5 credits) for the Comprehensive, Software Engineering, and Entrepreneurship streams, and 29 courses (14.5 credits) for the Information Systems stream.

Note: Many Computer Science courses are offered both at U of T Scarborough and at the St. George campus. When a course is offered at both campuses in a given session, U of T Scarborough students are expected to take that course at U of T Scarborough. The Department of Computer Science at the St. George campus cannot guarantee space for U of T Scarborough students in their courses, especially those offered at both campuses.

Core (9.0 credits)

1. Writing Requirement (0.5 credit)*

0.5 credit from the following: [ANTA01H3](#), [ANTA02H3](#), [CLAA06H3](#), (CTLA19H3), [CTLA01H3](#), [ENGA10H3](#), [ENGA11H3](#), [ENGB06H3](#), [ENGB07H3](#), [ENGB08H3](#), [ENGB09H3](#), [ENGB17H3](#), [ENGB19H3](#), [ENGB50H3](#), (ENGB51H3), [GGRA02H3](#), [GGRA03H3](#), [GGRB05H3](#), (GGRB06H3), (HISA01H3), (HLTA01H3), [ACMA01H3](#), (HUMA01H3), (HUMA11H3), (HUMA17H3), (LGGA99H3), [LINA01H3](#), [PHLA10H3](#), [PHLA11H3](#), [WSTA01H3](#).

***Note:** It is recommended that this requirement be satisfied by the end of the second year.

2. A-level courses (3.0 credits)

[CSCA08H3](#) Introduction to Computer Science I
[CSCA48H3](#) Introduction to Computer Science II
[CSCA67H3](#) Discrete Mathematics
[MATA22H3](#) Linear Algebra I for Mathematical Sciences
[MATA31H3](#) Calculus I for Mathematical Sciences
[MATA37H3](#) Calculus II for Mathematical Sciences

3. B-level courses (3.5 credits)

[CSCB07H3](#) Software Design
[CSCB09H3](#) Software Tools and Systems Programming
[CSCB36H3](#) Introduction to the Theory of Computation
[CSCB58H3](#) Computer Organization
[CSCB63H3](#) Design and Analysis of Data Structures
[MATB24H3](#) Linear Algebra II
[STAB52H3](#) Introduction to Probability

4. C-level courses (1.5 credits)

[CSCC43H3](#) Introduction to Databases
[CSCC69H3](#) Operating Systems
[CSCC73H3](#) Algorithm Design and Analysis

5. D-level courses (0.5 credit)

[CSCD03H3](#) Social Impact of Information Technology

Information Systems Stream

This stream requires a total of 29 courses (14.5 credits). In addition to the core requirements 1-5 common to all streams, 11 other distinct courses (5.5 credits) must be chosen to satisfy all of the following requirements:

6. Required management courses (1.5 credits)

[MGTA01H3](#) Introduction to Business

[MGTA02H3](#) Managing the Business Organization

[MGHB02H3](#) Managing People and Groups in Organizations

7. Additional required mathematics and computer science courses (3.0 credits)

[CSCC01H3](#) Introduction to Software Engineering

[CSCC37H3](#) Introduction to Numerical Algorithms for Computational Mathematics

[CSCC63H3](#) Computability and Computational Complexity

[CSCD01H3](#) Engineering Large Software Systems

[CSCD43H3](#) Database System Technology

[MATB41H3](#) Techniques of the Calculus of Several Variables I

8. Electives from courses on computer systems and applications (1.0 credit)

Choose from:

[CSCC09H3](#) Programming on the Web

[CSCC10H3](#) Human-Computer Interaction

[CSCC11H3](#) Introduction to Machine Learning and Data Mining

[CSCC46H3](#) Social and Information Networks

[CSCC85H3](#) Fundamentals of Robotics and Automated Systems

[CSCD18H3](#) Computer Graphics

[CSCD25H3](#) Advanced Data Science

[CSCD27H3](#) Computer and Network Security

[CSCD58H3](#) Computer Networks

[CSCD70H3](#) Compiler Optimization

[CSCD84H3](#) Artificial Intelligence

[CSC320H1](#) Introduction to Visual Computing

[CSC401H1](#) Natural Language Computing

[CSC413H1](#) Neural Networks and Deep Learning

[CSC469H1](#) Operating Systems Design and Implementation

[CSC485H1](#) Computational Linguistics

[CSC488H1](#) Compilers and Interpreters

Calendar Section: [Computer Science](#)

SPECIALIST PROGRAM IN COMPUTER SCIENCE - Software Engineering Stream (SCIENCE) - SCSPE0795

Supervisor of Studies: R. Pancer (416-287-7679) Email: pancer@utsc.utoronto.ca

Program Objectives

This program provides a working knowledge of the foundations of computer science: modern computer software and hardware, theoretical aspects of computer science, and relevant areas of mathematics and statistics. It also imparts an appreciation of the discipline's transformative impact on science and society. The program prepares students for further study and for careers in the computing industry. It comprises four streams with different emphases:

The Software Engineering Stream places a greater emphasis on the engineering side of the discipline, including computer systems and core applications.

The structure of the program requirements allows one to easily switch streams until relatively late in the program. Consequently, these streams should not be viewed as rigidly separated channels feeding students to different career paths, but as a flexible structure that provides computer science students guidance in their course selection based on their broad (but possibly fluid) interests.

Enrolment Requirements

Enrolment in the Specialist in Computer Science (all streams) is limited. Students may apply to enter the program after completing 4.0 credits, and must meet the requirements described below:

1. Students already admitted to the UTSC Year 1 Computer Science admissions category:

Required Courses:

Students must have passed the following CSC and MAT courses: [CSCA08H3](#), [CSCA48H3](#), [[CSCA67H3](#) or [MATA67H3](#)], [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#).

Required Grades:

Students that meet all of the following requirements will be admitted to a CS Specialist POST*:

- A cumulative grade point average (CGPA) of at least 2.5 over the following courses: [CSCA48H3](#), CSC/[MATA67H3](#), [MATA22H3](#), [MATA31H3](#), and [MATA37H3](#);
- A final grade of at least B in [CSCA48H3](#); and
- A final grade of at least C- in two of the following: CSC/[MATA67H3](#), [MATA22H3](#), and [MATA37H3](#).

*Students must select **one** stream of the CS Specialist as follows:

- Students can select either the Comprehensive stream or the Software Engineering stream.
- A limited number of students will be admitted to the Information Systems stream, depending on available space.
- Admission to the Entrepreneurship stream will be based in part on submission of a Supplementary Application Form (SAF) available on the Department of Computer and Mathematical Sciences [website](#). Applications for admission will be accepted once per academic year, during the April-May POST admissions round.

2. Students admitted to other UTSC Year 1 admissions categories:

Students that have been admitted to either the UTSC Year 1 Math or UTSC Year 1 Statistics admissions categories are eligible to apply for the Computer Science Specialist POST. Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

Students that have not been admitted to a UTSC Year 1 CMS admissions category (Computer Science, Mathematics, or Statistics) must achieve a final grade of at least A- in both [MATA31H3](#) and CSC/[MATA67H3](#) **the first time they complete these courses** in order to be eligible to apply for a CS Specialist POST. **This is a strict requirement.** Admission will be based on academic performance in the required A-level courses, identified above. The admission requirements change each year depending on available spaces and the pool of eligible applicants, and students are cautioned that there is no guarantee of admission; as such, students are strongly advised to plan to enroll in backup programs.

For more information about the admission requirements, please visit the following [CMS webpage](#).

To remain in the program, a student must maintain a CGPA of 2.0 or higher throughout the program.

Note: Students admitted to the program after second or third year will be required to pay retroactive deregulated program fees.

Program Requirements

The program requirements comprise a core of 18 courses (9.0 credits), common to all streams and additional requirements which depend on the stream, for a total of 27 courses (13.5 credits) for the Comprehensive, Software Engineering, and Entrepreneurship streams, and 29 courses (14.5 credits) for the Information Systems stream.

Note: Many Computer Science courses are offered both at U of T Scarborough and at the St. George campus. When a course is offered at both campuses in a given session, U of T Scarborough students are expected to take that course at U of T Scarborough. The Department of Computer Science at the St. George campus cannot guarantee space for U of T Scarborough students in their courses, especially those offered at both campuses.

Core (9.0 credits)

1. Writing Requirement (0.5 credit)*

0.5 credit from the following: [ANTA01H3](#), [ANTA02H3](#), [CLAA06H3](#), (CTLA19H3), [CTLA01H3](#), [ENGA10H3](#), [ENGA11H3](#), [ENGB06H3](#), [ENGB07H3](#), [ENGB08H3](#), [ENGB09H3](#), [ENGB17H3](#), [ENGB19H3](#), [ENGB50H3](#), (ENGB51H3), [GGRA02H3](#), [GGRA03H3](#), [GGRB05H3](#), (GGRB06H3), (HISA01H3), (HLTA01H3), [ACMA01H3](#), (HUMA01H3), (HUMA11H3), (HUMA17H3), (LGGA99H3), [LINA01H3](#), [PHLA10H3](#), [PHLA11H3](#), [WSTA01H3](#).

***Note:** It is recommended that this requirement be satisfied by the end of the second year.

2. A-level courses (3.0 credits)

[CSCA08H3](#) Introduction to Computer Science I
[CSCA48H3](#) Introduction to Computer Science II

[CSCA67H3](#) Discrete Mathematics
[MATA22H3](#) Linear Algebra I for Mathematical Sciences
[MATA31H3](#) Calculus I for Mathematical Sciences
[MATA37H3](#) Calculus II for Mathematical Sciences

3. B-level courses (3.5 credits)

[CSCB07H3](#) Software Design
[CSCB09H3](#) Software Tools and Systems Programming
[CSCB36H3](#) Introduction to the Theory of Computation
[CSCB58H3](#) Computer Organization
[CSCB63H3](#) Design and Analysis of Data Structures
[MATB24H3](#) Linear Algebra II
[STAB52H3](#) Introduction to Probability

4. C-level courses (1.5 credits)

[CSCC43H3](#) Introduction to Databases
[CSCC69H3](#) Operating Systems
[CSCC73H3](#) Algorithm Design and Analysis

5. D-level courses (0.5 credit)

[CSCD03H3](#) Social Impact of Information Technology

Software Engineering Stream

This stream requires a total of 27 courses (13.5 credits). In addition to the core requirements 1-5 common to all streams, 9 other distinct courses (4.5 credits) must be chosen to satisfy all of the following requirements:

6. Additional required courses (3.0 credits)

[CSCC01H3](#) Introduction to Software Engineering
[CSCC24H3](#) Principles of Programming Languages
[CSCC37H3](#) Introduction to Numerical Algorithms for Computational Mathematics
[CSCC63H3](#) Computability and Computational Complexity
[CSCD01H3](#) Engineering Large Software Systems
[MATB41H3](#) Techniques of the Calculus of Several Variables I

7. Electives from courses on computer systems and applications (1.5 credits)

Choose from:

[CSCC09H3](#) Programming on the Web
[CSCC10H3](#) Human-Computer Interaction
[CSCC11H3](#) Introduction to Machine Learning and Data Mining
[CSCC46H3](#) Social and Information Networks
[CSCC85H3](#) Fundamentals of Robotics and Automated Systems
[CSCD18H3](#) Computer Graphics
[CSCD25H3](#) Advanced Data Science
[CSCD27H3](#) Computer and Network Security
[CSCD43H3](#) Database System Technology
[CSCD58H3](#) Computer Networks
[CSCD70H3](#) Compiler Optimization
[CSCD84H3](#) Artificial Intelligence
[CSC320H1](#) Introduction to Visual Computing
[CSC401H1](#) Natural Language Computing
[CSC413H1](#) Neural Networks and Deep Learning
[CSC469H1](#) Operating Systems Design and Implementation
[CSC485H1](#) Computational Linguistics
[CSC488H1](#) Compilers and Interpreters

Calendar Section: [Computer Science](#)

SPECIALIST PROGRAM IN CONSERVATION AND BIODIVERSITY (SCIENCE) - SCSPE1150

Supervisor Email: biodiversity@utsc.utoronto.ca

This program presents a foundation for understanding how ecology and evolution shape organismal features (from morphology and physiology to behaviour) and the structure and function of communities and ecosystems. Ultimately these processes determine the broad patterns of organization of life on earth and biodiversity. The challenges to biodiversity are daunting. Habitat destruction, biological invasions and climate change are causing loss of species and disruption of ecosystems worldwide. Graduates are trained to understand and actively seek solutions to these problems. This program will show how ecological and evolutionary perspectives can be used to understand and predict the outcome of dynamic interactions among organisms, populations, species, and communities. Students will be well trained to take positions in government agencies, consulting firms or NGO's, able to continue with graduate studies in science for academic careers, or able to pursue careers in business or law related to environmental issues, stewardship and sustainable development.

Note: This program was formerly known as the Specialist in Biodiversity, Ecology & Evolution (BSc).

Enrolment Requirements

Students apply to the Specialist Program in Conservation and Biodiversity after completing a minimum of 4.0 credits, including 1.0 credit in Biology (excluding [BIOA11H3](#)), 1.0 credit in Chemistry, and 0.5 credit in Mathematics (excluding [MATA02H3](#)) or Statistics and with a minimum cumulative grade point average (CGPA) of at least 2.0.

Application for admission is made to the Office of the Registrar through ACORN, in April/May and July/August. See the UTSC Office of the Registrar's [website](#) for more information on program selection.

Program Requirements

This program consists of 14.5 required credits.

A. Required Courses

First Year

1. 1.0 Credit of Introductory Biology Courses

[BIOA01H3](#) Life on Earth: Unifying Principles

[BIOA02H3](#) Life on Earth: Form, Function and Interactions

2. 1.0 Credit of Introductory Chemistry Courses

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding

[[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms or [CHMA12H3](#) Advanced General Chemistry]

3. 1.0 Credit in Mathematics

Choose from:

[[MATA29H3](#) Calculus I for the Life Sciences or [MATA30H3](#) Calculus I for Physical Sciences]

and

[[MATA35H3](#) Calculus II for Biological Sciences or [MATA36H3](#) Calculus II for Physical Sciences]

4. 0.5 Credit in Physics

Choose from:

[PHYA10H3](#) Physics I for the Physical Sciences

[PHYA11H3](#) Physics I for the Life Sciences

5. 0.5 Credit in Computer Science

Choose from:

[CSCA08H3](#) Introduction to Computer Science I (most appropriate course for computer science students)

[CSCA20H3](#) Introduction to Programming (most appropriate course for non-computer science students)

Second Year

6. 3.0 Credits of Biology Core Courses

[BIOB10H3](#) Cell Biology

[BIOB11H3](#) Molecular Aspects of Cellular and Genetic Processes

[BIOB34H3](#) Animal Physiology

[BIOB38H3](#) Plants and Society

[BIOB50H3](#) Ecology

[BIOB51H3](#) Evolutionary Biology

[BIOB90H3](#) Integrative Research Poster Project (CR/NCR 0.0 credit)*

***Note:** Completion of [BIOB90H3](#) is a graduation requirement for students in this program. Concurrent enrolment in at least one of the BIO B-level courses listed above is required for enrolment in [BIOB90H3](#). Please see [BIOB90H3](#) in the Calendar for important information.

7. 0.5 Credit of Biology Core Labs

[BIOB52H3](#) Ecology and Evolutionary Biology Laboratory

8. 0.5 Credit in Statistics

Choose from:

[STAB22H3](#) Statistics I

[PSYB07H3](#) Data Analysis in Psychology

Third Year

9. 2.5 Credits of C-level Ecology and Evolution Foundation Courses

[BIOC16H3](#) Evolutionary Genetics and Genomics

[BIOC50H3](#) Macroevolution

[BIOC52H3](#) Field Ecology

[BIOC61H3](#) Community Ecology and Environmental Biology

[BIOC63H3](#) Conservation Biology

Third/Fourth Year

10. 4.0 credits of C- & D-level courses from Bins 1 and 2 below. This must include at least 1.0 credit from each bin and at least 1.0 credit total at the D-level.

Bin 1: C- & D-level Ecology and Evolution Courses

Choose from:

[BIOC51H3](#) Tropical Biodiversity Field Course

[BIOC58H3](#) Biological Consequences of Global Change

[BIOC60H3](#) Winter Ecology

[BIOC65H3](#) Environmental Toxicology

([BIOC67H3](#)) Inter-University Biology Field Course

[BIOD25H3](#) Genomics

[BIOD52H3](#) Biodiversity and Conservation

[BIOD54H3](#) Applied Conservation Biology

[BIOD55H3](#) Experimental Animal Behaviour

[BIOD59H3](#) Models in Ecology, Epidemiology and Conservation

[BIOD60H3](#) Spatial Ecology

[BIOD62H3](#) Symbiosis: Interactions Between Species

[BIOD63H3](#) From Individuals to Ecosystems: Advanced Topics in Ecology

[BIOD66H3](#) Causes and Consequences of Biodiversity

[BIOD67H3](#) Inter-University Biology Field Course

[EESC04H3](#) Biodiversity and Biogeography

Bin 2: C- & D-level Organismal Biology Courses

Choose from:

[BIOC29H3](#) Introductory Mycology

[BIOC37H3](#) Plants: Life on the Edge

[BIOC40H3](#) Plant Physiology

[BIOC54H3](#) Animal Behaviour

[BIOC59H3](#) Advanced Population Ecology

[BIOC62H3](#) Role of Zoos and Aquariums in Conservation

[BIOC70H3](#) An Introduction to Bias in the Sciences

[BIOD26H3](#) Fungal Biology & Pathogenesis

[BIOD34H3](#) Conservation Physiology

[BIOD37H3](#) Biology of Plant Stress

[BIOD43H3](#) Animal Movement and Exercise

[BIOD45H3](#) Animal Communication

[BIOD48H3](#) Ornithology

[BIOD53H3](#) Special Topics in Animal Behaviour

[EESC30H3](#) Environmental Microbiology

[BIOC90H3](#) Integrative Multimedia Documentary Project (CR/NCR 0.0 credit)*

***Note:** Completion of [BIOC90H3](#) is a graduation requirement for students in this program. Concurrent enrolment in one of the participating BIO C-level courses is required for enrolment in [BIOC90H3](#). Please see [BIOC90H3](#) in the Calendar for important information.

B. Senior Research Courses (optional)

Students interested in graduate research are encouraged to take one or more of the independent research courses offered in Biological Sciences as part of their degree.

[BIOD95H3](#) Supervised Study in Biology

[BIOD98Y3](#) Directed Research in Biology

[BIOD99Y3](#) Directed Research in Biology

Calendar Section: [Biological Sciences](#)

SPECIALIST PROGRAM IN ECONOMICS FOR MANAGEMENT STUDIES (BACHELOR OF BUSINESS ADMINISTRATION) - SCSPE0133

Academic Director: Jack Parkinson Email: ecoss.utsc@utoronto.ca

This program will provide a specialization for those wishing for a substantial component of Economics in a Management degree leading to a B.B.A. The Program is designed to allow students to learn practical skills of data analysis and to combine them with the interpretive skills given by knowledge of economic theory.

Enrolment Requirements

Enrolment in this Program is limited.

1. Students enrolling directly from high school are admitted on the basis of academic performance. They must have completed Grade 12 English and Grade 12 Calculus.

Course Guidelines for Students Admitted to B.B.A. Programs Directly from High School

Students must complete the following courses in their first year of study: [MGEA02H3](#), [MGEA06H3](#), [MATA34H3](#), [MGAB01H3](#), [MGAB02H3](#), [MGHA12H3](#), [MGMA01H3](#) and [MGTA38H3](#).

2. Students requesting admission after first year must request ONLY ONE Management Subject POST on ACORN. Students may apply at the end of the Winter semester and/or at the end of the Summer semester. Application for admission will be considered only for the round during which the student has made the Subject POST request.

The minimum Cumulative Grade Point Average (CGPA) for Program admission is calculated for each application period, and is based on University of Toronto courses only. Decisions are made when all grades have been received.

Students must have completed the following courses (or their equivalent): [MGEA02H3](#), [MGEA06H3](#), and [MATA34H3](#). However, [[[MATA29H3](#) or [MATA30H3](#) or [MATA31H3](#) or ([MATA32H3](#))] and [([MATA33H3](#)) or [MATA35H3](#) or [MATA36H3](#) or [MATA37H3](#)]] may also be used to satisfy the calculus requirement. None of the courses listed above (or their equivalent) can be designated as CR/NCR. Of the total credits that students have completed when they apply, at least 4.0 credits just in University of Toronto courses that have been graded (i.e., not designated as CR/NCR). Students may apply until they have completed up to 10.0 credits. Students who have completed more than 10.0 credits will not be considered for admission to the Program.

In order to remain in the Program, students must maintain a CGPA of 2.0 or higher after having attempted at least 4.0 credits. Students whose CGPA falls below 2.0 will be removed from the Program. Students removed from the program, for this reason, may request reinstatement if they complete at least 2.0 credits (none of which can be designated as CR/NCR) in the following session and raise their CGPA to at least 2.0. This opportunity will be provided only once.

Program Requirements

The Specialist Program in Economics for Management Studies requires the completion of 16.0 credits as part of a twenty-credit B.B.A. degree.

Note: A single course may only be used once to fulfill one of the following requirements:

1. 8.5 credits in Economics for Management Studies:

[MGEA02H3](#) Introduction to Microeconomics: A Mathematical Approach
[MGEA06H3](#) Introduction to Macroeconomics: A Mathematical Approach
[MGEB02H3](#) Price Theory: A Mathematical Approach
[MGEB06H3](#) Macroeconomic Theory and Policy: A Mathematical Approach
[MGEB11H3](#) Quantitative Methods in Economics I
[MGEB12H3](#) Quantitative Methods in Economics II
[MGEC02H3](#) Topics in Price Theory
[MGEC06H3](#) Topics in Macroeconomics Theory
[MGEC11H3](#) Introduction to Regression Analysis
[MGED02H3](#) Advanced Microeconomic Theory
[MGED06H3](#) Advanced Macroeconomic Theory
[MGED11H3](#) Theory and Practice of Regression Analysis
[MGED50H3](#) Workshop in Economic Research,
 and

2.0 credits in Economics for Management Studies courses including at least 1.0 credit at the C-level [excluding [MGEC91H3](#), [MGEC92H3](#), and [MGEC93H3](#)].

2. (0.5 credit):

[MATA34H3](#)

or

[[[MATA29H3](#)/[MATA30H3](#)/[MATA31H3](#)/(MATA32H3)] and [(MATA33H3)/[MATA35H3](#)/[MATA36H3](#)/[MATA37H3](#)]]

3. (6.5 credits):

[MGMA01H3](#) Principles of Marketing
[MGTA38H3](#) Management Communications
[MGAB01H3](#) Introductory Financial Accounting I
[MGAB02H3](#) Introductory Financial Accounting II
[MGAB03H3](#) Introductory Management Accounting
[MGFB10H3](#) Principles of Finance
[MGFC10H3](#) Intermediate Finance
[MGHA12H3](#) Human Resource Management
[MGHB02H3](#) Managing People and Groups in Organizations
[MGHC02H3](#) Management Skills
[MGMB01H3](#) Marketing Management
[MGOC10H3](#) Analytics for Decision Making
[MGOC20H3](#) Operations Management

4. At least 0.5 credit of courses emphasizing strategic management, chosen from:

[MGSB01H3](#) Introduction to Strategy
[MGSB22H3](#) Entrepreneurship
[MGSC01H3](#) Strategic Management I
[MGSC03H3](#) Public Management
[MGSC05H3](#) The Changing World of Business-Government Relations
[MGSC10H3](#) Business Strategy in the Digital Age
[MGSC12H3](#) Narrative and Management
[MGSC14H3](#) Management Ethics
[MGSC20H3](#) Consulting and Contracting: New Ways of Work
[MGSC30H3](#) The Legal Environment of Business I
[MGSD24H3](#) New Venture Creation and Planning

Note: In selecting options and electives, students should refer to the guidelines for program breadth and depth found in the [Degree Requirements](#) section of the UTSC *Calendar*.

Calendar Section: [Management](#)

SPECIALIST PROGRAM IN ENGLISH (ARTS) - SCSPE1645

For more information, contact eng-ugc.utsc@utoronto.ca

Program Requirements

12.0 credits in English are required of which at least 3.0 credits must be at the C-level and 1.5 credits at the D-level. They should be selected as follows:

1. All of the following:

[ENGA01H3](#) What is Literature?
[ENGA02H3](#) Critical Writing About Literature
[ENGB27H3](#) Charting Literary History I
[ENGB28H3](#) Charting Literary History II
[ENGC15H3](#) Introduction to Literary Theory and Criticism

2. 1.0 additional credits from courses whose content is pre-1900*

*See the [English Course List](#) for courses in pre-1900

3. 0.5 additional credit in Indigenous Literatures of Turtle Island

*See the [English Course List](#) for courses in Indigenous Literatures of Turtle Island

4. 0.5 credit in Canadian Literature*

*See the [English Course List](#) for courses in Canadian Literature

5. 7.5 additional credits in ENG or FLM courses

Note: Students may count no more than one of the following courses towards the Specialist requirements:

[ENGB35H3](#) Children's Literature
([ENGB36H3](#)) Detective Fiction
([ENGB41H3](#)) Science Fiction

Students may count no more than 1.0 credit of D-level independent study [[ENGD26Y3](#), [ENGD27Y3](#), [ENGD28Y3](#), ([ENGD97H3](#)), ([ENGD99H3](#))] towards an English program.

The following courses do not count towards any English programs: ENG100H, ENG185Y.

Calendar Section: [English](#)

SPECIALIST PROGRAM IN ENVIRONMENTAL CHEMISTRY (SCIENCE) - SCSPE0361

For an updated list of Program Supervisors, please visit the [Chemistry website](#).

This program is intended for students who want an in-depth study of chemistry, with a specialization in how to apply chemistry to solve environmental problems. The first year of the program emphasizes learning fundamentals across various disciplines, including biology, chemistry, physics, math and environmental science. As students progress into upper years, they develop skills in the fundamental areas of chemistry while also taking specialized courses in environmental chemistry. In their fourth year, students have the opportunity to contribute to the creation of scientific knowledge by participating in a directed research project. Students who graduate from this program will be well qualified for positions in government and industry as well as several graduate programs.

This program is accredited by the Canadian Society for Chemistry (CSC). It meets the national standards of education required by the CSC, ensuring that graduating students possess skills in both the core chemical concepts and practical laboratory skills that are necessary to thrive in today's workforce. Graduates of these programs will receive a certificate stating that they have completed a nationally accredited chemistry program.

Enrolment Requirements

Students may apply to this program after completing at least 4.0 credits from the following: [EESA01H3](#), [EESA06H3](#), [BIOA01H3](#), [BIOA02H3](#), [CHMA10H3](#), [[CHMA11H3](#) or [CHMA12H3](#)], [[MATA29H3](#) or [MATA30H3](#)], [[MATA35H3](#) or [MATA36H3](#)], and [[PHYA10H3](#) or [PHYA11H3](#)]; in addition, they must have achieved a cumulative grade point average (CGPA) of at least 2.0. Application for admission to the program is made to the Registrar through ACORN. See the UTSC Registrar's website for information on the program (Subject POST) selection, and application window dates on the following [website](#).

Program Requirements

Total requirements: 16.0 credits

First Year (4.5 credits):

[BIOA01H3](#) Life on Earth: Unifying Principles
[BIOA02H3](#) Life on Earth: Form, Function and Interactions
[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding
[[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms or [CHMA12H3](#) Advanced General Chemistry]
[EESA01H3](#) Introduction to Environmental Science
[EESA06H3](#) Introduction to Planet Earth
[[MATA29H3](#) Calculus I for Life Sciences or [MATA30H3](#) Calculus I for Physical Sciences]
[[MATA35H3](#) Calculus II for Biological Sciences or [MATA36H3](#) Calculus II for Physical Sciences]
[[PHYA10H3](#) Physics I for the Physical Sciences or [PHYA11H3](#) Physics I for the Life Sciences]

Second Year (4.5 credits):

[CHMB16H3](#) Techniques in Analytical Chemistry
[CHMB23H3](#) Introduction to Chemical Thermodynamics and Kinetics: Theory and Practice
[CHMB31H3](#) Introduction to Inorganic Chemistry
[CHMB41H3](#) Organic Chemistry I
[CHMB42H3](#) Organic Chemistry II
[CHMB55H3](#) Environmental Chemistry
[EESB15H3](#) Earth History

and

0.5 credit from the following:

[CHMB21H3](#) Chemical Structure and Spectroscopy
[CHMB62H3](#) Introduction to Biochemistry

and

0.5 credit from the following:

[EESB03H3](#) Principles of Climatology

[EESB19H3](#) Mineralogy

Third Year (4.0 credits):

[CHMC11H3](#) Principles of Analytical Instrumentation

[EESC07H3](#) Groundwater

[EESC20H3](#) Geochemistry

[STAB22H3](#) Statistics I

and

1.5 credit from the following:

[CHMC16H3](#) Analytical Instrumentation

[CHMC31Y3](#) Intermediate Inorganic Chemistry

[CHMC42H3](#) Organic Synthesis

[CHMC47H3](#) Bio-Organic Chemistry

and

0.5 credit from the following:

[EESB04H3](#) Principles of Hydrology

[EESB05H3](#) Principles of Soil Science

Fourth Year (3.0 credits):

[CHMD16H3](#) Environmental and Analytical Chemistry

[EESC13H3](#) Environmental Impact Assessment and Auditing

[EESD02H3](#) Contaminant Hydrogeology

[EESD15H3](#) Fundamentals of Site Remediation

and

1.0 credit from the following, including 0.5 credits from [CHMD90Y3](#), [CHMD91H3](#) and [CHMD92H3](#):

[CHMD11H3](#) Application of Spectroscopy in Chemical Structure Determination

[CHMD59H3](#) Modelling the Fate of Organic Chemicals in the Environment

[CHMD89H3](#) Introduction to Green Chemistry

[CHMD90Y3](#) Directed Research in Chemistry

[CHMD91H3](#) Directed Research in Chemistry

[CHMD92H3](#) Advanced Chemistry Laboratory Course

Calendar Section: [Chemistry](#)

SPECIALIST PROGRAM IN ENVIRONMENTAL GEOSCIENCE (SCIENCE) - SCSPE0351A

For an updated list of Programs Supervisors, please visit the [Environmental Sciences website](#).

This program has been designed to meet the expectations of the Association of Professional Geoscientists of Ontario (APGO) - the licensing and regulatory body responsible for ensuring that geoscientists have the appropriate qualifications to practice. Students are encouraged to make careful choice of optional/elective courses to meet APGO requirements.

Please visit the [APGO website](#) for further information on requirements to become a Professional Geoscientist (P.Geo) in Ontario.

Program Requirements

Total requirements: 16.0 credits of which 1.0 credit must be at the D-level as follows:

First Year:

[BIOA01H3](#) Life on Earth: Unifying Principles

[BIOA02H3](#) Life on Earth: Form, Function and Interactions

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding

[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms

[EESA01H3](#) Introduction to Environmental Science

[EESA06H3](#) Introduction to Planet Earth

[[MATA30H3](#) Calculus I for Physical Sciences or [MATA31H3](#) Calculus I for Mathematical Sciences]

[[MATA36H3](#) Calculus II for Physical Sciences or [MATA37H3](#) Calculus II for Mathematical Sciences]

[PHYA10H3](#) Physics I for the Physical Sciences

[PHYA21H3](#) Physics II for the Physical Sciences

Second Year:

[CHMB55H3](#) Environmental Chemistry
[EESB02H3](#) Principles of Geomorphology
[EESB03H3](#) Principles of Climatology
[EESB04H3](#) Principles of Hydrology
[EESB05H3](#) Principles of Soil Science
[EESB15H3](#) Earth History
[EESB18H3](#) Natural Hazards
[EESB19H3](#) Mineralogy
[CSCA20H3](#) Introduction to Programming
[STAB22H3](#) Statistics I

Third Year:

[EESB20H3](#) Sedimentology and Stratigraphy
[EESC03H3](#) Geographic Information Systems and Remote Sensing
[EESC07H3](#) Groundwater
[EESC13H3](#) Environmental Impact Assessment and Auditing
[EESC20H3](#) Geochemistry
[EESC22H3](#) Exploration Geophysics
[EESC36H3](#) Petrology

and

0.5 credit from the following:

[BIOB50H3](#) Ecology
[EESB22H3](#) Environmental Geophysics
[EESB26H3](#) Introduction to Global Geophysics
[EESC18H3](#) Limnology
[EESC19H3](#) Oceanography
[EESC31H3](#) Glacial Geology

Fourth Year:

[EESC37H3](#) Structural Geology

and

0.5 credit from the following:

[EESC26H3](#) Seismology and Seismic Methods
[EESD02H3](#) Contaminant Hydrogeology
[EESD06H3](#) Climate Change Impact Assessment
[EESD09H3](#) Research Project in Environmental Science
[EESD10Y3](#) Research Project in Environmental Science
[EESD11H3](#) Advanced Watershed Hydrology
[EESD13H3](#) Environmental Law, Policy and Ethics
[EESD15H3](#) Fundamentals of Site Remediation
[EESD19H3](#) Professional Development Seminars in Geoscience
[EESD20H3](#) Geological Evolution and Environmental History of North America
[EESD21H3](#) Geophysical and Climate Data Analysis

and

[1.0 credit at the C- or D-level in EES courses] or [0.5 credit at the C- or D-level in EES courses and [PSCD11H3](#) Communicating Science: Film, Media, Journalism, and Society]

Strongly recommended: [EESC16H3](#) Field Camp I or [EESD07H3](#) Field Camp II or [EESD33H3](#) Field Techniques

Calendar Section: [Environmental Science](#)

SPECIALIST PROGRAM IN ENVIRONMENTAL PHYSICS (SCIENCE) - SCSPE1076B

For a list of updated Program Supervisors, please visit the [Physics and Astrophysics website](#).

Program Requirements

Total Requirements: 16.0 credits

First Year (4.0 credits):

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding
[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms
[EESA06H3](#) Introduction to Planet Earth
[MATA23H3](#) Linear Algebra I
[MATA30H3](#) Calculus I for Physical Sciences
[MATA36H3](#) Calculus II for Physical Sciences
[PHYA10H3](#) Physics I for the Physical Sciences
[PHYA21H3](#) Physics II for the Physical Sciences

Second Year (4.5 credits):

[EESB15H3](#) Earth History
[EESB19H3](#) Mineralogy
[MATB41H3](#) Techniques of Calculus of Several Variables I
[MATB42H3](#) Techniques of Calculus of Several Variables II
[MATB44H3](#) Differential Equations I
[PHYB10H3](#) Intermediate Physics Laboratory I
[PHYB21H3](#) Electricity and Magnetism
[PHYB54H3](#) Mechanics: From Oscillations to Chaos

and

0.5 credit from the following:

[EESB02H3](#) Principles of Geomorphology
[EESB03H3](#) Principles of Climatology
[EESB04H3](#) Principles of Hydrology
[EESB05H3](#) Principles of Soil Science
[EESB22H3](#) Environmental Geophysics

Third Year (4.0 credits):

[EESB20H3](#) Sedimentology and Stratigraphy
[MATC46H3](#) Differential Equations II
[PHYB57H3](#) Introduction to Scientific Computing
[STAB22H3](#) Statistics I

and

1.5 credits from the following:

[EESB26H3](#) Introduction to Global Geophysics
[EESC22H3](#) Exploration Geophysics
[EESC26H3](#) Seismology and Seismic Methods
[PHYB52H3](#) Thermal Physics
[PHYC11H3](#) Intermediate Physics Laboratory II
[PHYC50H3](#) Electromagnetic Theory
[PHYC54H3](#) Classical Mechanics

and

0.5 credit from the following:

[CHMB55H3](#) Environmental Chemistry
[EESC07H3](#) Groundwater
[EESC18H3](#) Limnology
[EESC19H3](#) Oceanography
[EESC20H3](#) Geochemistry
[EESC31H3](#) Glacial Geology

Fourth Year (3.5 credits):

[EESC36H3](#) Petrology
[EESC37H3](#) Structural Geology
[EESD21H3](#) Geophysical and Climate Data Analysis
[PHYD37H3](#) Introduction to Fluid Mechanics

and

1.5 credits from the following:

[ASTC25H3](#) Astrophysics of Planetary Systems
[EESC03H3](#) Geographic Information Systems and Remote Sensing
[EESD02H3](#) Contaminant Hydrogeology
[*EESD09H3](#) Research Project in Environmental Science
[*EESD10Y3](#) Research Project in Environmental Science
[EESD13H3](#) Environmental Law, Policy and Ethics
[EESD33H3](#) Field Techniques
[PHYC14H3](#) Introduction to Atmospheric Physics
[PHYC50H3](#) Electromagnetic Theory
[PHYC54H3](#) Classical Mechanics
[*PHYD01H3](#) Research Project in Physics and Astrophysics
[*PHYD02Y3](#) Extended Research Project in Physics and Astrophysics

[PHYD26H3](#) Planetary Geophysics
[PHYD38H3](#) Nonlinear Systems and Chaos
 *[PHYD72H3](#) Supervised Reading in Physics and Astrophysics

*no more than 1.0 credit from [EESD09H3](#), [EESD10Y3](#), [PHYD01H3](#), [PHYD02Y3](#) and [PHYD72H3](#) may be counted as fulfilling the program requirements.

Notes:

Where any course appears on more than one option list, it may only be counted as fulfilling the requirements for one of those lists of options.

Strongly recommended: [EESC16H3](#) Field Camp I or [EESD07H3](#) Field Camp II or [EESD33H3](#) Field Techniques.

The optional courses [EESB19H3](#) Mineralogy and [EESC36H3](#) Petrology and EESC37 Structural Geology are *strongly recommended for students focusing on training as a geophysicist*.

Calendar Section: [Physics and Astrophysics](#)

SPECIALIST PROGRAM IN EVOLUTIONARY ANTHROPOLOGY (SCIENCE) - SCSPE17806

The Specialist Program in Evolutionary Anthropology is intended to provide the professionally oriented student with background preparation of sufficient breadth and depth to pursue specialized training at the graduate level. It is also designed to offer interested students a course structure as background for a wide range of occupations and professions. Students are encouraged to consult with the Undergraduate Counsellor regarding the selection of a course sequence appropriate to their interests and objectives. In exceptional circumstances, supervised research and reading courses are available at the C- and D-levels ([ANTC04H3](#), [ANTD32H3](#)). These courses require special arrangements prior to registration. Read the descriptions for these courses carefully as restrictions apply.

Program Requirements

The Program requires completion of 12.0 credits, as indicated below.

1. 1.0 credit as follows:

[ANTA01H3](#) Introduction to Anthropology: Becoming Human
[ANTA02H3](#) Introduction to Anthropology: Society, Culture and Language

2. [ANTB14H3](#) Evolutionary Anthropology

3. [ANTB15H3](#) Contemporary Human Evolution and Variation

4. 10.0 credits at the B-level or above, of which at least 5.0 credits must be at the C- or D-level, including at least 1.0 credit at the D-level. At least 7.5 credits must be composed of ANT courses identified as "Science credit" in the UTSC Academic Calendar.

Note: [ANTB14H3](#) and [ANTB15H3](#) are prerequisites for C- and D-level courses in the Evolutionary Anthropology program.

Calendar Section: [Anthropology](#)

SPECIALIST PROGRAM IN FRENCH (ARTS) - SCSPE2156

For curriculum inquiries, contact the department's Program Coordinator: dls-ua@utsc.utoronto.ca

This program is designed to provide students with a fundamental knowledge and grasp of principles and practices in core areas of French: language, grammar, linguistics, literature and culture.

Enrolment in the CTEP program in French has been suspended indefinitely. Students who enrolled at UTSC prior to the 2014

Summer Session should refer to the 2013/14 UTSC *Calendar*.

Program Requirements

This program requires 12.0 credits as follows including at least 4.0 credits at the C- or D-level of which at least 1.0 credit must be at the D-level:

1. 3.5 credits in Language Practice:

[FREA01H3](#) Language Practice I

[FREA02H3](#) Language Practice II

[FREB01H3](#) Language Practice III

[FREB02H3](#) Language Practice IV

[FREC01H3](#) Language Practice V

[FREC02H3](#) Language Practice VI

[FRED01H3](#) Language Practice VII: Written French

(Except where substitution of other French credits is permitted for students with special proficiency in the French language)

2. 2.0 credits in Linguistics:

[FREB08H3](#) Practical Translation I

[FREB44H3](#) Introduction to Linguistics: French Phonetics and Phonology

[FREB45H3](#) Introduction to Linguistics: French Morphology and Syntax

[FREB46H3](#) History of the French Language

[FREC44H3](#) French Semantics

[FREC46H3](#) French Syntax

[FREC47H3](#) Pidgin and Creole Languages (taught in English)

[FREC48H3](#) Sociolinguistics of French

3. 1.5 credits in Culture:

[FREB22H3](#) The Society and Culture of Québec

[FREB27H3](#) Modern France

[FREB28H3](#) The Francophone World

[FREB70H3](#) Introduction to Film Analysis in French

[FREB84H3](#) Folktale, Myth and the Fantastic in the French-Speaking World

[FREC03H3](#) French in Action I: Practical Workshop in Theatre

[FREC54H3](#) Paris Through the Ages

[FREC70H3](#) Cinema, Movements and Genres

[FREC83H3](#) Cultural Identities and Stereotypes in the French-Speaking World

4. 3.0 credits in Literature which must include:

[FREB50H3](#) Introduction to French Literature I

[FREB35H3](#) Francophone Literature

and

1.0 credit in literature from Québec, selected from the following:

[FREB36H3](#) The 20th Century Québec Novel

[FREB37H3](#) Contemporary Québec Drama

[FREC38H3](#) Topics in the Literature of Québec

[FRED14H3](#) Advanced Topics in the Literature of Québec

and

1.0 credit in French Literature, selected from the following:

[FREB51H3](#) Literary History in Context: From the Middle Ages to the 17th Century

[FREB55H3](#) Literary History in Context: 18th and 19th Centuries

[FREC57H3](#) French Fiction of the 19th Century

[FREC58H3](#) Literature of the Ancient Regime

[FREC63H3](#) Topics in French Literature: Encountering Foreign Cultures: Travel Writing in France

[FREC64H3](#) French Fiction of the 20th and 21st Centuries

[FRED13H3](#) Advanced Topics in French Literature

5. 2.0 additional credits in French Linguistics, French Culture or Literature (where not already taken) or from the list below:

[FREB11H3](#) French Language in the School System

[FREB17H3](#) Spoken French: Conversation and Pronunciation

[FREB18H3](#) Business French

[FREB20H3](#) Teaching Children's Literature in French

[FREC10H3](#) Community-Engaged Learning in the Francophone Community

[FREC11H3](#) Teaching French as a Second Language

[FREC18H3](#) Translation for Business and Professional Needs

[FRED06H3](#) Language Practice VIII: Oral French

Notes:

1. Specialist students (including CTEP) cannot obtain more than 0.5 credit (out of 12.0) by taking a course in English. This does not include CTEP courses taught in English through OISE.
2. At the A-level, only [FREA01H3](#) and [FREA02H3](#) may be counted towards a French Program.

Calendar Section: [French](#)

SPECIALIST PROGRAM IN GLOBAL ASIA STUDIES (ARTS) - SCSPEGAS

Undergraduate Advisor: (416) 287-7184 Email: gas-undergrad-advisor@utsc.utoronto.ca

Program Requirements

Students must complete 12.0 credits, of which at least 4.0 credits must be at the C- or D-level, including at least 1.0 credit at the D-level:

1. 0.5 credit as follows:

[GASA01H3/HISA06H3](#) Introducing Global Asia and its Histories

or

[GASA02H3](#) Introduction to Global Asia Studies

2. 9.5 credits at the B- or C-level in GAS courses, of which 3.0 credits should be at the C-level (students should check course descriptions for prerequisites)

3. At least 1.0 credit at the D-level in GAS courses (students should check the course description for prerequisites)

4. 1.0 credit from Asian language courses taught at the University

Calendar Section: [Global Asia Studies](#)

SPECIALIST PROGRAM IN GLOBAL ENVIRONMENTAL CHANGE (SCIENCE) - SCSPE0371

This program was formerly known as Specialist in Environmental Biology. Humans are considered to be the dominant force shaping nearly all of Earth's biotic and abiotic patterns and processes, including those within the world's atmosphere, biosphere, cryosphere, hydrosphere, and lithosphere. Many scientists now suggest that anthropogenic impacts on the environment are so pervasive, that they have moved Earth into a novel geological epoch called "The Anthropocene": a time in Earth's 4.6 billion-year history where humans are the dominate force shaping the environment. In the Specialist program in Global Environmental Change students will gain a deep understanding of: 1) the fundamental environmental processes occurring within Earth's spheres; 2) how humans are profoundly influencing these processes at local and global scales; and 3) how anthropogenic changes to Earth's environment are both unfolding rapidly, and unique in the context of Earth's history. The program entails learning these themes through a comprehensive mix of: 1) core and advanced scientific courses; 2) applied environmental skills courses; and 3) undergraduate environmental research opportunities.

Program Requirements

Total requirements: 14.5 credits

First Year (4.5 credits):

[BIOA01H3](#) Life on Earth: Unifying Principles

[BIOA02H3](#) Life on Earth: Form, Function and Interactions

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding

[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms

[EESA01H3](#) Introduction to Environmental Science

[EESA06H3](#) Introduction to Planet Earth

[[MATA29H3](#) Calculus I for Life Sciences or [MATA30H3](#) Calculus I for Physical Sciences]

[[MATA35H3](#) Calculus II for Biological Sciences or [MATA36H3](#) Calculus II for Physical Sciences]

[[PHYA10H3](#) Physics I for the Physical Sciences or [PHYA11H3](#) Physics I for the Life Sciences]

Second Year (5.0 credits):

[[CSCA08H3](#) Introduction to Computer Science I or [CSCA20H3](#) Introduction to Programming]

[BIOB50H3](#) Ecology

[BIOB51H3](#) Evolutionary Biology

[CHMB55H3](#) Environmental Chemistry

[EESB03H3](#) Principles of Climatology

[EESB04H3](#) Principles of Hydrology

[EESB05H3](#) Principles of Soil Science

[ESTB01H3](#) Introduction to Environmental Studies

[STAB22H3](#) Statistics I

and

0.5 credit from the following:

[BIOB52H3](#) Ecology and Evolutionary Biology Laboratory

[EESB15H3](#) Earth History

[EESB16H3](#) Feeding Humans - The Cost to the Planet

[PSCB90H3](#) Physical Sciences Research Experience

Third and Fourth Years (5.0 credits):

3.5 credits as follows:

[BIOC58H3](#) Biological Consequences of Global Change

[BIOC63H3](#) Conservation Biology

[EESC02H3](#) Invaded Environments

[EESC03H3](#) Geographic Information Systems and Remote Sensing

[EESC04H3](#) Biodiversity and Biogeography

[EESC30H3](#) Environmental Microbiology

[EESD06H3](#) Climate Change Impact Assessment

and

1.5 credits from the following, of which 0.5 credit must be at the D-level:

[BIOC37H3](#) Plants: Life on the Edge

[BIOC51H3](#) Tropical Biodiversity Field Course

[BIOC52H3](#) Ecology Field Course

[BIOD52H3](#) Biodiversity and Conservation

[BIOD54H3](#) Applied Conservation Biology

[EESC13H3](#) Environmental Impact Assessment and Auditing

[EESC16H3](#) Field Camp I

[EESC18H3](#) Limnology

[EESC19H3](#) Oceanography

[EESC20H3](#) Geochemistry

[EESC24H3](#) Advanced Readings in Environmental Science

[EESC38H3](#)/[ESTC38H3](#) The Anthropocene

[EESD02H3](#) Contaminant Hydrogeology

[EESD09H3](#) Research Project in Environmental Science

[EESD07H3](#) Field Camp II

[EESD10Y3](#) Research Project in Environmental Sciences

[EESD11H3](#) Advanced Watershed Hydrology

Calendar Section: [Environmental Science](#)

SPECIALIST PROGRAM IN HISTORY (ARTS) - SCSPE0652

Undergraduate Advisor: 416-208-2923 Email: history-undergrad-advisor@utsc.utoronto.ca

Program Requirements

Students must complete at least 12.0 credits in History, including:

1. 1.0 credit from the following:

[HISA04H3](#) Themes in World History I

[HISA05H3](#) Themes in World History II

[HISA06H3](#)/[GASA01H3](#) Introducing Global Asia and its Histories

[HISA07H3](#)/[CLAA04H3](#) The Ancient Mediterranean World

[HISA08H3/AFSA01H3](#) Africa in the World: An Introduction
[HISA09H3](#) Capitalism: A Global History

2. 1.0 credit as follows:

[HISB03H3](#) Critical Writing and Research for Historians
[HISC01H3](#) History and Evidence

3. 4.5 credits at the C-level

4. 1.0 credit at the D-level

5. Additional 4.5 credits in History

6. Within the 12.0 credits required, students must also complete:

2.0 credits must deal with the period prior to 1800

and

1.0 credit in Canadian history

and

4.0 credits distributed over four of the following areas of history:

- a. United States and Latin America
- b. Medieval
- c. European
- d. Africa and Asia
- e. Transnational
- f. Ancient World

Specialist Program in History--Language Stream

Students registered in the Specialist Program in History have the option of registering in the Language Stream. Students in the Language Stream must complete the Specialist Program in History and 2.0 credits in a single language. This option is designed to encourage Specialists to undertake language study with an eye to engaging historical writing and sources in the original language. Specialists who wish to demonstrate proficiency in a given language on their transcript should undertake the additional study that would qualify them for the UTSC Language Citation.

Calendar Section: [History](#)

SPECIALIST PROGRAM IN HUMAN BIOLOGY (SCIENCE) - SCSPE0215

Supervisor Email: human-biology@utsc.utoronto.ca

The Specialist in Human Biology provides a solid foundation of introductory science courses and core biology courses while emphasizing, in the upper years, issues related to human health, the nature of humans and their culture as well as the interaction of the human species with the environment. The first year of the program emphasizes introductory courses in biology, chemistry, calculus, physics and psychology. The second year of the program emphasizes core courses in cell biology, molecular biology, physiology, ecology, evolution and anatomy that provide the basis for continued specialization in the third and fourth years. The upper years of the program emphasize specialized courses in anatomy, biochemistry, endocrinology, immunology, microbiology, physiology, psychology, pathology and pathobiology. This program is suited for those students who wish to go onto health-related fields such as medicine, dentistry, nursing, pharmacy, physiotherapy and health policy/management or graduate studies in these, and other, areas such as physiology, medicine and endocrinology.

Enrolment Requirements

Students apply to the Specialist Program in Human Biology after completing a minimum of 4.0 credits, including 1.0 credit in Biology (excluding [BIOA11H3](#)), 1.0 credit in Chemistry, and 0.5 credit in Mathematics (excluding [MATA02H3](#)) or Statistics and with a minimum cumulative grade point average (CGPA) of at least 2.0.

Application for admission is made to the Office of the Registrar through ACORN, in April/May and July/August. See the UTSC Office of the Registrar's [website](#) for more information on program selection.

Program Requirements

This Program consists of 15.0 credits.

Required Courses and Suggested Course Sequence

First Year

1. 1.0 credit in Introductory Biology Courses

[BIOA01H3](#) Life on Earth: Unifying Principles

[BIOA02H3](#) Life on Earth: Form, Function and Interactions

2. 1.0 credit in Introductory Chemistry Courses

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding

[[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms or [CHMA12H3](#) Advanced General Chemistry]

3. 1.0 credit in Mathematics

[[MATA29H3](#) Calculus I for the Life Sciences or [MATA30H3](#) Calculus I for Physical Sciences]

and

[[MATA35H3](#) Calculus II for Biological Sciences or [MATA36H3](#) Calculus II for Physical Sciences]

4. 1.0 credit in Introductory Physics Courses

[PHYA11H3](#) Physics I for the Life Sciences

[PHYA22H3](#) Physics II for the Life Sciences

5. 0.5 credit in Statistics

Choose From:

[STAB22H3](#) Statistics I

[PSYB07H3](#) Data Analysis in Psychology

Second Year

6. 3.0 credits in Biology Core Courses

[BIOB10H3](#) Cell Biology

[BIOB11H3](#) Molecular Aspects of Cellular and Genetic Processes

[BIOB34H3](#) Animal Physiology

[BIOB38H3](#) Plants and Society

[BIOB50H3](#) Ecology

[BIOB51H3](#) Evolutionary Biology

[BIOB90H3](#) Integrative Research Poster Project (CR/NCR 0.0 credit)*

***Note:** Completion of [BIOB90H3](#) is a graduation requirement for students in this program. Concurrent enrolment in at least one of the BIO B-level courses listed above is required for enrolment in [BIOB90H3](#). Please see [BIOB90H3](#) in the Calendar for important information.

7. 1.0 credit in Biology Core Labs

[BIOB32H3](#) Animal Physiology Laboratory

[BIOB33H3](#) Human Development and Anatomy Laboratory

8. 1.0 credit in Organic Chemistry Courses

[CHMB41H3](#) Organic Chemistry I

[CHMB42H3](#) Organic Chemistry II

Third/Fourth Years

9. 2.5 credits in C-level Biology Core Courses

Choose From:

[BIOC15H3](#) Genetics

[BIOC17H3](#) Microbiology

[BIOC20H3](#) Principles of Virology

[BIOC32H3](#) Human Physiology I

[BIOC34H3](#) Human Physiology II

[BIOC39H3](#) Immunology

10. 1.5 credits in Additional C-level Biology Courses

Choose From:

[BIOC10H3](#) Cell Biology: Proteins from Life to Death

[BIOC12H3](#) Biochemistry I: Proteins and Enzymes

[BIOC13H3](#) Biochemistry II: Bioenergetics and Metabolism

[BIOC14H3](#) Genes, Environment and Behaviour

[BIOC16H3](#) Evolutionary Genetics and Genomics

[BIOC19H3](#) Animal Developmental Biology
[BIOC21H3](#) Vertebrate Histology: Cells and Tissues
[BIOC35H3](#) Principles of Parasitology
[BIOC40H3](#) Plant Physiology
[BIOC58H3](#) Biological Consequences of Global Change
[BIOC65H3](#) Environmental Toxicology
[BIOC70H3](#) An Introduction to Bias in the Sciences
[BIOC90H3](#) Integrative Multimedia Documentary Project (CR/NCR 0.0 credit)*

***Note:** Completion of [BIOC90H3](#) is a graduation requirement for students in this program. Concurrent enrolment in one of the participating BIO C-level courses is required for enrolment in [BIOC90H3](#). Please see [BIOC90H3](#) in the Calendar for important information.

11. 1.0 credit in D-level Courses

Choose From:

[BIOD06H3](#) Advanced Topics in Neural Basis of Motor Control
[BIOD07H3](#) Advanced Topics and Methods in Neural Circuit Analysis
[BIOD12H3](#) Protein Homeostasis
[BIOD13H3](#) Herbology: The Science Behind Medicinal Plants
[BIOD15H3](#) Mechanisms of Gene Regulation in Health and Disease
[BIOD17H3](#) Seminars in Cellular Microbiology
[BIOD19H3](#) Epigenetics in Health and Disease
[BIOD20H3](#) Special Topics in Virology
[BIOD24H3](#) Human Stem Cell Biology and Regenerative Medicine
[BIOD25H3](#) Genomics
[BIOD26H3](#) Fungal Biology and Pathogenesis
[BIOD27H3](#) Vertebrate Endocrinology
[BIOD29H3](#) Pathobiology of Human Disease
[BIOD32H3](#) Human Respiratory Pathophysiology
[BIOD33H3](#) Comparative Animal Physiology
[BIOD35H3](#) Sports Science
[BIOD37H3](#) Biology of Plant Stress
[BIOD43H3](#) Animal Movement and Exercise
[BIOD59H3](#) Models in Ecology, Epidemiology and Conservation
[BIOD65H3](#) Pathologies of the Nervous System
[HLTD44H3](#) Environmental Contaminants, Vulnerability and Toxicity

12. 0.5 credit in Psychology or Health Studies

Choose From:

[HLTA02H3](#) Foundations in Health Studies I
[HLTA03H3](#) Foundations in Health Studies II
[HLTB15H3](#) Introduction to Health Research Methodology
[HLTB16H3](#) Introduction to Public Health
 (HLTB17H3) Conceptual Models of Health
[HLTB20H3](#) Contemporary Human Evolution and Variation
 (HLTB21H3) Infectious Diseases
[HLTB22H3](#) Biological Determinants of Health
[HLTB40H3](#) Health Policy and Health Systems
[PSYA01H3](#) Introduction to Biological and Cognitive Psychology
[PSYA02H3](#) Introduction to Clinical, Developmental, Personality and Social Psychology

Calendar Section: [Biological Sciences](#)

SPECIALIST PROGRAM IN HUMAN GEOGRAPHY (ARTS) - SCSPE1666H

The Specialist in Human Geography expands upon, and enhances, the course requirements and learning outcomes of the Major in Human Geography. It is a more in-depth program that allows a deeper exploration of Human Geography, thus creating an opportunity for advanced students to engage in a richer, more intensive program, and allowing them to gain a sufficient depth of knowledge, and the enhanced methods and skills training they will need, for graduate studies or to compete in employment markets. The Specialist program will pair nicely with the Minor in GIS, or the Minor in City Studies.

Program Requirements

Students must complete 12.0 credits as follows:

1. Foundations of Human Geography (1.0 credit from among the following):

[GGRA02H3](#) The Geography of Global Processes

[GGRA03H3](#) Cities and Environments

[GGRA35H3](#) The Great Scarborough Mashup: People, Place, Community, Experience

2. Theory and Concepts in Human Geography (2.5 credits):

[GGRB02H3](#) The Logic of Geographical Thought

[GGRB03H3](#) Writing Geography

and

1.5 credits from the following:

[GGRB05H3](#) Urban Geography

[GGRB13H3](#) Social Geography

[GGRB18H3](#)/[EESB02H3](#) Whose Land Is It Anyway?, Indigenous Peoples, the Crown, and Land in Canada

[GGRB21H3](#) Political Ecology: Nature, Society and Environmental Change

[GGRB28H3](#) Geographies of Disease

[GGRB55H3](#) Cultural Geography

3. Methods (2.0 credits):

[GGRA30H3](#) Geographic Information Systems (GIS) and Empirical Reasoning

[STAB23H3](#) Introduction to Statistics for the Social Sciences (or equivalent)

and

1.0 credit from the following:

[GGRB30H3](#) Fundamentals of GIS I

[GGRB32H3](#) Fundamentals of GIS II

[GGRC31H3](#) Qualitative Geographical Methods: Place and Ethnography

4. Applications (5.5 credits):

5.5 additional credits at the C- and/or D-level in GGR courses

5. Advanced Applications (1.0 credit):

1.0 credit at the D-level in GGR courses

Calendar Section: [Geography](#)

SPECIALIST PROGRAM IN INTEGRATIVE BIOLOGY (SCIENCE) - SCSPE1030A

Supervisor Email: integrative-biology@utsc.utoronto.ca

The Integrative Biology program allows students to pursue a specialist program built on a broad, multi-perspective approach towards understanding biological complexity. This program provides students with a solid foundation in core biological areas (cellular and organismal biology, ecology and conservation, genes and development) and builds on this knowledge base in third and fourth years. A key advantage to this program is that it allows students to pursue specialization in more than one area at the same time, providing students with a broad understanding of biology. Many of the biggest issues facing today's planet require scientists that are capable of bringing different and complementary perspectives to look for solutions, and this program provides the coursework and training to help undergraduates build this knowledge base. Students who are interested in careers in conservation biology, ecology, environmental sciences, cellular/organismal biology, as well as ones interested in careers in medicine and other health professions, will benefit from this program.

Enrolment Requirements

Students apply to the Specialist Program in Integrative Biology after completing a minimum of 4.0 credits, including 1.0 credit in Biology (excluding [BIOA11H3](#)), 1.0 credit in Chemistry, and 0.5 credit in Mathematics (excluding [MATA02H3](#)) or Statistics and with a minimum cumulative grade point average (CGPA) of at least 2.0.

Application for admission is made to the Office of the Registrar through ACORN, in April/May and July/August. See the UTSC Office of the Registrar's [website](#) for more information on program selection.

Program Requirements

This program consists of 14.5 required credits.

*First Year***1. 1.0 Credit of Introductory Biology Courses**[BIOA01H3](#) Life on Earth: Unifying Principles[BIOA02H3](#) Life on Earth: Form, Function and Interactions**2. 1.0 Credit of Introductory Chemistry Courses**[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding[\[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms or [CHMA12H3](#) Advanced General Chemistry]**3. 1.0 Credit in Mathematics**

Choose from:

[\[MATA29H3](#) Calculus I for the Life Sciences or [MATA30H3](#) Calculus I for Physical Sciences]

and

[\[MATA35H3](#) Calculus II for Biological Sciences or [MATA36H3](#) Calculus II for Physical Sciences]**4. 0.5 Credit in Physics**

Choose from:

[PHYA10H3](#) Physics I for the Physical Sciences[PHYA11H3](#) Physics I for the Life Sciences**5. 0.5 Credit in Computer Science**

Choose from:

[CSCA08H3](#) Introduction to Computer Science I (most appropriate course for computer science students)[CSCA20H3](#) Introduction to Programming (most appropriate course for non-computer science students)*Second Year***6. 3.0 Credits of Biology Core Courses**[BIOB10H3](#) Cell Biology[BIOB11H3](#) Molecular Aspects of Cellular and Genetic Processes[BIOB34H3](#) Animal Physiology[BIOB38H3](#) Plants and Society[BIOB50H3](#) Ecology[BIOB51H3](#) Evolutionary Biology[BIOB90H3](#) Integrative Research Poster Project (CR/NCR 0.0 credit)*

***Note:** Completion of [BIOB90H3](#) is a graduation requirement for students in this program. Concurrent enrolment in at least one of the BIO B-level courses listed above is required for enrolment in [BIOB90H3](#). Please see [BIOB90H3](#) in the Calendar for important information.

7. 0.5 Credit of Biology Core Labs

Choose from:

[BIOB12H3](#) Cell and Molecular Biology Laboratory[BIOB32H3](#) Animal Physiology Laboratory[BIOB33H3](#) Human Development and Anatomy Laboratory[BIOB52H3](#) Ecology and Evolutionary Biology Laboratory**8. 0.5 Credit in Statistics**

Choose from:

[STAB22H3](#) Statistics I[PSYB07H3](#) Data Analysis in Psychology*Third/Fourth Year***9. 2.5 Credits of Biology Foundation Courses**[BIOC15H3](#) Genetics[BIOC17H3](#) Microbiology[\[BIOC37H3](#) Plants: Life on the Edge or [BIOC40H3](#) Plant Physiology][BIOC54H3](#) Animal Behaviour[BIOC61H3](#) Community Ecology**10. 1.0 Credit of Advanced Courses in Cellular and Organismal Biology**

Choose from:

[BIOC12H3](#) Biochemistry I: Proteins and Enzymes[BIOC13H3](#) Biochemistry II: Bioenergetics and Metabolism[BIOC20H3](#) Principles of Virology[BIOC21H3](#) Vertebrate Histology: Cells and Tissues[BIOC23H3](#) Practical Approaches to Biochemistry[BIOC29H3](#) Introductory Mycology

[BIOC32H3](#) Human Physiology I
[BIOC34H3](#) Human Physiology II
 [[BIOC37H3](#) Plants: Life on the Edge or [BIOC40H3](#) Plant Physiology; whichever course is not used to fulfill Biology Foundation course requirement]
[BIOC39H3](#) Immunology
[BIOC65H3](#) Environmental Toxicology
[BIOC70H3](#) An Introduction to Bias in the Sciences
[NROC34H3](#) Neuroethology

11. 1.0 Credit of Advanced Courses in Ecology and Conservation

Choose from:

[BIOC50H3](#) Macroevolution
[BIOC51H3](#) Tropical Biodiversity Field Course
[BIOC52H3](#) Ecology Field Course
[BIOC58H3](#) Biological Consequences of Global Change
[BIOC59H3](#) Advanced Population Ecology
[BIOC60H3](#) Winter Ecology
[BIOC62H3](#) Role of Zoos and Aquariums in Conservation
[BIOC63H3](#) Conservation Biology
 (BIOC67H3) Inter-University Biology Field Course
[EESC04H3](#) Biodiversity and Biogeography

12. 1.0 Credit of Advanced Courses in Genes and Development

Choose from:

[BIOC10H3](#) Cell Biology: Proteins from Life to Death
[BIOC14H3](#) Genes, Environment and Behaviour
[BIOC16H3](#) Evolutionary Genetics and Genomics
[BIOC19H3](#) Animal Developmental Biology
[BIOC31H3](#) Plant Development and Biotechnology
[BIOC90H3](#) Integrative Multimedia Documentary Project (CR/NCR 0.0 credit)*

***Note:** Completion of [BIOC90H3](#) is a graduation requirement for students in this program. Concurrent enrolment in one of the participating BIO C-level courses is required for enrolment in [BIOC90H3](#). Please see [BIOC90H3](#) in the Calendar for important information.

13. 1.0 Credit of D-Level Biology Courses

Choose from:

Any BIO D-level course offered by the Biological Sciences department.

Calendar Section: [Biological Sciences](#)

SPECIALIST PROGRAM IN INTERNATIONAL DEVELOPMENT STUDIES (ARTS) - SCSPE2540A

Program Requirements

This program requires the completion of 13.0 credits, of which at least 4.0 credits must be at the C- or D-level including at least 1.0 credit at the D-level.

1. Introduction to International Development Studies (2.0 credits as follows)

[IDSA01H3](#) Introduction to International Development Studies
 [[MGEA01H3](#) Introduction to Microeconomics or [MGEA02H3](#) Introduction to Microeconomics: A Mathematical Approach]
 [[MGEA05H3](#) Introduction to Macroeconomics or [MGEA06H3](#) Introduction to Macroeconomics: A Mathematical Approach]
[EESA01H3](#) Introduction to Environmental Science

2. Core courses in International Development (at least 3.0 credits from among the following)

[IDSB01H3](#) Political Economy of International Development
[IDSB02H3](#) Development and Environment
[IDSB04H3](#) Introduction to International/Global Health
[IDSB06H3](#) Equity, Ethics and Justice in International Development
[IDSB07H3](#) Confronting Development's Racist Past and Present
[POLB90H3](#) Comparative Development in International Perspective
[POLB91H3](#) Comparative Development in Political Perspective

Note: We highly recommend that students select [IDSB07H3](#) as part of their core B-level courses. Students in the IDS co-op program must complete [IDSB07H3](#) prior to enrolling in [IDSC01H3](#).

3. Methods for International Development Studies (1.5 credits as follows)

[IDSC04H3](#) Project Management I

and

0.5 credit in Quantitative/statistical methods from the following:

[ANTC35H3](#) Quantitative Methods in Anthropology

[MGEB11H3](#) Quantitative Methods in Economics I

[GGRA30H3](#) Geographic Information Systems (GIS) and Empirical Reasoning

[GGRB30H3](#) Fundamentals of GIS I

[HLTB15H3](#) Introduction to Health Research Methodology

[STAB23H3](#) Introduction to Statistics for the Social Sciences

and

0.5 credit in Qualitative methods from the following:

[ANTB19H3](#) Ethnography and the Comparative Study of Human Societies

[GGRC31H3](#) Qualitative Geographical Methods: Place and Ethnography

[HLTC04H3](#) Fieldwork Practices in Health and Society Research

[POLC78H3](#) Political Analysis I

[WSTB05H3](#) Power in Knowledge Production

4. Research in International Development Requirement (0.5 credit):

[IDSD02H3](#) Advanced Research Seminar in Critical Development Studies

5. Specialized Courses: Approaches to International Development (6.0 credits)

A minimum of 2.0 credits must be chosen from two different clusters below for a total of 4.0 credits. The other 2.0 credits may be selected from any of the courses listed below, and [IDSA02H3/AFSA03H3](#), [IDSC07H3](#), [IDSC10H3](#), [IDSC15H3](#), [IDSC20H3](#), [IDSC21H3](#), [IDSD10H3](#), [IDSD12H3](#) and [IDSD13H3](#), [IDSD14H3](#) and [IDSD15H3](#) may also be counted towards the completion of this requirement.

Media and Development

[ANTB09H3](#) Culture from Film and Media

[ANTC53H3](#) Anthropology of Media and Publics

[FLMB77H3/\(ENGB77H3\)](#) Cinema and Colonialism

[FLMC83H3/\(ENGC83H3\)](#) World Cinema

[FLMC84H3/\(ENGC84H3\)](#) Cinema and Migration

[GASC40H3/MDSC40H3](#) Chinese Media and Politics

[GASC41H3/MDSC41H3](#) Media and Popular Culture in East Asia

[IDSB10H3](#) Political Economy of Knowledge Technology and Development

[IDSC08H3](#) Media and Development

[IDSD08H3](#) Community-Centered Media Tactics for Development Advocacy and Social Change

[MDSA01H3](#) Introduction to Media Studies

[MDSB05H3/GASB05H3](#) Media and Globalization

[MDSB10H3](#) Technology, Culture and Society

[MDSB15H3](#) Social Media, Platform Politics and Digital Cultures

[MDSB61H3](#) Mapping New Media

[MGEC20H3](#) Economics of Media

[MDSC62H3](#) Media, Journalism and Digital Labour

[SOCC44H3](#) Media and Society

[THRB21H3](#) Intercultural and Global Theatre

[THRC20H3/\(VPDC13H3\)](#) Theatre and Social Justice

[THRC40H3](#) Performance and Activism

[VPHB50H3](#) Africa Through the Photographic Lens

[WSTB13H3](#) Feminist Critiques of Media and Culture

Culture and Society

[ANTB05H3/AFSB05H3](#) Culture and Society in Africa

[ANTB18H3](#) Development, Inequality and Social Change in Latin America

[ANTB20H3](#) Ethnography and the Global Contemporary

[ANTB64H3](#) Are You What You Eat?: The Anthropology of Food

[ANTC10H3](#) Anthropological Perspectives on Development

[ANTC34H3](#) The Anthropology of Transnationalism

[ANTC52H3](#) The Global Politics of Language

[ANTC59H3](#) Anthropology of Language and Media

[ANTC66H3](#) Anthropology of Tourism

[GASC43H3](#) Colonialism and Cultures in Modern East Asia

[GGRD14H3](#) Social Justice and the City

[HISB50H3](#) Africa in the Era of the Slave Trade

[HISB51H3/AFSB51H3](#) Africa from the Colonial Conquests to Independence
[HISB54H3](#) Africa in the Postcolonial Era
[HISB57H3/GASB57H3](#) Sub-Continental Histories: South Asia in the World
[HISC29H3](#) Global Commodities: Nature, Culture, History
[HISC55H3/AFSC55H3](#) War and Society in Modern Africa
[HISD51H3/AFSD51H3](#) Southern Africa: Colonial Rule, Apartheid and Liberation
[IDSC03H3/AFSC03H3](#) Contemporary Africa: State, Society, and Politics
[IDSD06H3](#) Feminist and Postcolonial Perspectives in Development Studies
[MUZC01H3/\(VPMC01H3\)](#) Exploring Community Music
[MUZD01H3/\(VPM01H3\)](#) Senior Seminar: Music in Our Communities
[PHLB05H3](#) Social Issues
[SOCB58H3](#) Sociology of Culture
[SOCB70H3](#) Social Change
[SOCC25H3](#) Ethnicity, Race and Migration
[SOCC29H3](#) Family and Gender in the Middle East
[SOCC34H3](#) Migrations & Transnationalisms
[SOCC58H3](#) Global Transformations: Politics, Economy & Society

Economics of Development

[ANTC19H3](#) Producing People and Things: Economics and Social Life
[MGEB32H3](#) Economic Aspects of Public Policy
 (MGEB60H3) Comparative Economic Systems
 (MGEC21H3) Classics in the History of Economic Thought
[MGEC61H3](#) International Economics: Finance
[MGEC62H3](#) International Economics: Trade Theory
[MGEC81H3](#) Economic Development
[MGEC82H3](#) International Aspects of Development Policy
[MGED63H3](#) Financial Crises: Causes, Consequences and Policy Implications
[IDSC12H3](#) Economics of Small Enterprise and Micro-Credit
[IDSC14H3](#) The Political Economy of Food
[IDSC19H3/AFSC19H3](#) Community-driven Development: Cooperatives, Social Enterprises and the Black Social Economy
[IDSD16H3/AFSD16H3](#) Africana Political Economy in Comparative Perspective
[GGRC48H3](#) Geographies of Urban Poverty
[POLC69H3](#) Political Economy: International and Comparative Perspectives
[POLC98H3](#) International Political Economy of Finance

Environment and Land Use

[ANTB01H3](#) Political Ecology
[EESB16H3](#) Feeding Humans - the Cost to the Planet
[EESB17H3](#) Hydro Politics and Transboundary Water Resources Management
[ESTC34H3](#) Sustainability in Practice
[ESTC36H3](#) Knowledge, Ethics and Environmental Decision-Making
[GGRB21H3](#) Political Ecology: Nature, Society and Environmental Change
[GGRC10H3](#) Urbanization and Development
[GGRC25H3](#) Land Reform and Development
[GGRC26H3](#) Geographies of Environmental Governance
[GGRC28H3](#) Indigenous Peoples, Environment and Justice
[GGRC44H3](#) Environmental Conservation and Sustainable Development
[GGRD09H3](#) Feminist Geographies
[GGRD49H3](#) Land and Land Conflicts in the Americas
[IDSC02H3](#) Environmental Science and Evidence-Based Policy
[IDSC14H3](#) The Political Economy of Food
[IDSD07H3/AFSD07H3](#) Extractive Industries in Africa
[PHLB02H3](#) Environmental Ethics
[WSTB20H3/\(WSTC20H3\)](#) Feminism and The Environment

Gender, Health and Development

[ANTC14H3](#) Feminism and Anthropology
[ANTC15H3](#) Genders and Sexualities
[ANTC24H3](#) Culture, Mental Illness, and Psychiatry
[ANTC61H3](#) Medical Anthropology: Illness and Healing in Cultural Perspective
[GGRB28H3](#) Geographies of Disease
[GGRD10H3](#) Health and Sexuality
[HLTC02H3](#) Women and Health: Past and Present
[IDSC11H3](#) Issues in Global and International Health
[IDSD05H3](#) Historical Perspectives on Global Health and Development
[POLC79H3](#) Feminist Political Thought
[POLC94H3](#) Globalization, Gender and Development

[WSTB10H3](#) Women, Power and Protest: Transnational Perspectives

[WSTB11H3](#) Intersections of Inequality

[WSTC10H3/AFSC53H3](#) Gender and Critical Development

Politics and Policy

[ANTC32H3](#) Political Anthropology

[IDSC11H3](#) Issues in Global and International Health

[IDSC13H3](#) State Formation and the Politics of Development in the Global South: Explaining Divergent Outcomes

[IDSC16H3](#) Populism, Development, and Globalization in the Global South

[IDSC17H3](#) Development, Citizen Action and Social Change in the Global South

[IDSC18H3](#) New Paradigms in Development: The Role of Emerging Powers

[IDSD05H3](#) Historical Perspectives on Global Health and Development

[IDSD19H3](#) The Role of Researcher-Practitioner Engagement in Development

[IDSD20H3/AFSD20H3](#) Thinking Conflict, Security, and Development

[POLB80H3](#) Introduction to International Relations I

[POLB81H3](#) Introduction to International Relations II

[POLC09H3](#) International Security: Conflict, Crisis and War

[POLC16H3](#) Chinese Politics

[POLC37H3](#) Global Justice

[POLC80H3](#) International Relations of Africa

[POLC87H3](#) International Cooperation and Institutions

[POLC88H3](#) The New International Agenda

[POLC90H3](#) Development Studies: Political and Historical Perspectives

[POLC91H3](#) Latin America: Dictatorship and Democracy

[POLC96H3](#) State Formation and Authoritarianism in the Middle East

[POLC97H3](#) Protest Politics in the Middle East

[POLC99H3](#) Latin America: Politics of the Dispossessed

[POLD09H3](#) Advanced Topics in International Security

[POLD87H3](#) Rational Choice and International Cooperation

[POLD89H3](#) Global Environmental Politics

[POLD90H3/IDSD90H3](#) Public Policy and Human Development in the Global South

[POLD91H3](#) Protests and Social Movements in Comparative Perspective

[POLD92H3](#) Survival and Demise of Dictatorships

[POLD94H3](#) Selected Topics on Developing Areas

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SPECIALIST PROGRAM IN INTERNATIONAL DEVELOPMENT STUDIES (SCIENCE) - SCSPE2540B

Program Requirements:

This program requires 13.5 credits of which at least 4.0 credits must be at the C-or D- level including at least 1.0 credit at the D-level.

1. Introduction to Sciences and International Development Studies (4.5 credits):

[IDSA01H3](#) Introduction to International Development Studies

[BIOA01H3](#) Life on Earth: Unifying Principles

[BIOA02H3](#) Life on Earth: Form, Function and Interactions

[CHMA10H3](#) Introductory Chemistry I: Structure and Bonding

[CHMA11H3](#) Introductory Chemistry II: Reactions and Mechanisms

[EESA01H3](#) Introduction to Environmental Science

[EESA06H3](#) Introduction to Planet Earth

[[MGEA01H3](#) Introduction to Microeconomics or [MGEA02H3](#) Introduction to Microeconomics: A Mathematical Approach]

[[MGEA05H3](#) Introduction to Macroeconomics or [MGEA06H3](#) Introduction to Macroeconomics: A Mathematical Approach]

2. Core courses in International Development (at least 2.0 credits from among the following):

[IDSB01H3](#) Political Economy of International Development

[IDSB02H3](#) Development and Environment

[IDSB04H3](#) Introduction to International/Global Health

[IDSB06H3](#) Equity, Ethics and Justice in International Development

[IDSB07H3](#) Confronting Development's Racist Past and Present

Note: We highly recommend students enroll in [IDSB07H3](#) as part of their core B-level courses. Students in the IDS co-op program must complete [IDSB07H3](#) prior to enrolling in [IDSC01H3](#).

3. Core Courses in Environmental Biology (2.5 credits):

[BIOB50H3](#) Ecology

[BIOB51H3](#) Evolutionary Biology

[EESB03H3](#) Principles of Climatology

[EESB05H3](#) Principles of Soil Science

[EESB16H3](#) Feeding Humans - The Cost to the Planet

4. Methods for International Development Studies (1.5 credits):

[IDSC04H3](#) Project Management I

[STAB22H3](#) Statistics I (or equivalent)

and

0.5 credit from the following:

[GGRA30H3](#) Geographic Information Systems (GIS) and Empirical Reasoning

[EESC03H3](#) Geographic Information Systems and Remote Sensing

5. Advanced courses in Environmental Biology (2.0 credits, of which 0.5 credit must be at the D-level):

Choose from:

[BIOC37H3](#) Plants: Life on the Edge

[BIOC58H3](#) Biological Consequences of Global Change

[BIOC61H3](#) Community Ecology and Environmental Biology

[BIOC62H3](#) Role of Zoos and Aquariums in Conservation

[BIOC63H3](#) Conservation Biology

[EESC04H3](#) Biodiversity and Biogeography

[BIOD54H3](#) Applied Conservation Biology

[EESD06H3](#) Climate Change Impact Assessment

6. Environmental Science in Practice (0.5 credit):

Choose from:

[EESC13H3](#) Environmental Impact Assessment and Auditing

(GGRC22H3) Political Ecology Theory and Applications

[GGRC26H3](#) Geographies of Environmental Governance

[GGRC44H3](#) Environmental Conservation and Sustainable Development

[IDSC02H3](#) Environmental Science and Evidence-Based Policy

7. Research in International Development Requirement (0.5 credit):

[IDSD02H3](#) Advanced Research Seminar in Critical Development Studies

Calendar Section: [International Development Studies](#)

SPECIALIST PROGRAM IN LINGUISTICS (ARTS) - SCSPE0506

For curriculum inquiries, contact the department's Program Coordinator: dls-ua@utsc.utoronto.ca

Program Requirements

Students must complete 12.0 credits, including 4.0 credits at the C- and D-level of which 1.0 credit must be at the D-level as follows:

1. 4.5 Credits in Foundations of Linguistics:

[LINA01H3](#) Introduction to Linguistics

[LINA02H3](#) Applications of Linguistics

[LINB04H3](#) Phonology I

[LINB06H3](#) Syntax I

[LINB09H3](#) Phonetics: The Study of Speech Sounds

[LINB10H3](#) Morphology

[LINC02H3](#) Phonology II

[LINC11H3](#) Syntax II

[LINC12H3](#) Semantics: The Study of Meaning

2. 4.5 credits from the following, including at least 1.5 credits from Group A and at least 1.5 credits from Group B:

Group A – Applied Linguistics

[LINB18H3](#) English Grammar
[LINB20H3](#) Sociolinguistics
[LINB60H3](#) Comparative Study of English and Chinese
[LINB62H3](#) Structure of American Sign Language
[LINC13H3](#) Language Diversity and Universals
[LINC28H3](#) Language and Gender
[LINC47H3](#) Pidgin and Creole Languages
[LINC61H3](#) Structure of a Language
[LIND09H3](#) Phonetic Analysis
[LIND29H3](#) Linguistic Research Methodologies

Group B - Psycholinguistics and Computational Linguistics

[LINB19H3](#) Computers in Linguistics
[LINB29H3](#) Quantitative Methods in Linguistics
[LINB30H3](#) Programming for Linguists
[LINC35H3](#) Introduction to Computational Linguistics
[PLIC24H3](#) First Language Acquisition
[PLIC25H3](#) Second Language Acquisition
[PLIC55H3](#) Psycholinguistics
[PLIC75H3](#) Language and the Brain
[PLID34H3](#) The Psycholinguistics of Reading
[PLID44H3](#) Acquisition of the Mental Lexicon
[PLID50H3](#) Speech Perception
[PLID53H3](#) Sentence Processing
[PLID74H3](#) Language and Aging

3. 1.0 credit of language study in one or more languages, which may include [LINB60H3](#) or [LINB62H3](#) or [LINC61H3](#); ECT, FRE or LGG courses or language courses at another campus.

4. 2.0 credits in any LIN, PLI, JAL or JLP courses.

Calendar Section: [Linguistics](#)

SPECIALIST PROGRAM IN MANAGEMENT (BACHELOR OF BUSINESS ADMINISTRATION) - SCSPE24313

Academic Director: S. Ahmed E-mail: mgmtss@utsc.utoronto.ca

This program is designed to give students a broad exposure to all functional areas of Management as well as a solid grounding in Economics.

Enrolment Requirements

Enrolment in this Program is limited.

1. Students enrolling directly from high school are admitted on the basis of academic performance. They must have completed Grade 12 English and Grade 12 Calculus.

Course Guidelines for Students Admitted to B.B.A. Programs Directly from High School Students must complete the following courses in their first year of study: [MGEA02H3](#), [MGEA06H3](#), [MATA34H3](#), [MGAB01H3](#), [MGAB02H3](#), [MGHA12H3](#), [MGMA01H3](#), and [MGTA38H3](#).

2. Students requesting admission after first year must request ONLY ONE Management Subject POST on ACORN. Students may apply at the end of the Winter semester and/or at the end of the Summer semester. Application for admission will be considered only for the round during which the student has made the Subject POST request.

The minimum Cumulative Grade Point Average (CGPA) for Program admission is calculated for each application period, and is based on University of Toronto courses only. Decisions are made when all grades have been received.

Students must have completed the following courses (or their equivalent): [MGEA02H3](#), [MGEA06H3](#), and [MATA34H3](#). However, [\[\[MATA29H3 or MATA30H3 or MATA31H3 or \(MATA32H3\)\] and \[\(MATA33H3\) or MATA35H3 or MATA36H3 or](#)

[MATA37H3](#)] may also be used to satisfy the calculus requirement. None of the courses listed above (or their equivalent) can be designated as CR/NCR. Of the total credits that students have completed when they apply, at least 4.0 credits just in University of Toronto courses that have been graded (i.e., not designated as CR/NCR). Students may apply until they have completed up to 10.0 credits. Students who have completed more than 10.0 credits will not be considered for admission to the Program.

In order to remain in the Program, students must maintain a CGPA of 2.0 or higher after having attempted at least 4.0 credits. Students whose CGPA falls below 2.0 will be removed from the Program. Students removed from the program, for this reason, may request reinstatement if they complete at least 2.0 credits (none of which can be designated as CR/NCR) in the following session and raise their CGPA to at least 2.0. This opportunity will be provided only once.

Program Requirements

This program requires the completion of 13.0 credits as part of a twenty-credit B.B.A. degree.

Note: A single course may only be used once to fulfill one of the following requirements:

1. (6.5 credits):

[MGMA01H3](#) Principles of Marketing
[MGTA38H3](#) Management Communications
[MGAB01H3](#) Introductory Financial Accounting I
[MGAB02H3](#) Introductory Financial Accounting II
[MGAB03H3](#) Introductory Management Accounting
[MGFB10H3](#) Principles of Finance
[MGHA12H3](#) Human Resource Management
[MGHB02H3](#) Managing People and Groups in Organizations
[MGMB01H3](#) Marketing Management
[MGFC10H3](#) Intermediate Finance
[MGHC02H3](#) Management Skills
[MGOC10H3](#) Analytics for Decision Making
[MGOC20H3](#) Operations Management

2. (0.5 credit):

[MATA34H3](#)

or

[[[MATA29H3](#)/[MATA30H3](#)/[MATA31H3](#)/([MATA32H3](#))] and [([MATA33H3](#))/[MATA35H3](#)/[MATA36H3](#)/[MATA37H3](#)]]

3. At least 0.5 credit of courses emphasizing strategic management, chosen from:

[MGSB01H3](#) Introduction to Strategy
[MGSB22H3](#) Entrepreneurship
[MGSC01H3](#) Strategic Management I
[MGSC03H3](#) Public Management
[MGSC05H3](#) The Changing World of Business-Government Relations
[MGSC10H3](#) Business Strategy in the Digital Age
[MGSC12H3](#) Narrative and Management
[MGSC14H3](#) Management Ethics
[MGSC20H3](#) Consulting and Contracting: New Ways of Work
[MGSC30H3](#) The Legal Environment of Business I
[MGSD24H3](#) New Venture Creation and Planning

4. (3.0 credits):

[MGEA02H3](#) Introduction to Microeconomics: A Mathematical Approach
[MGEA06H3](#) Introduction to Macroeconomics: A Mathematical Approach
[MGEB02H3](#) Price Theory: A Mathematical Approach
[MGEB06H3](#) Macroeconomic Theory and Policy: A Mathematical Approach
[MGEB11H3](#) Quantitative Methods in Economics I
[MGEB12H3](#) Quantitative Methods in Economics II

5. 1.5 credits of any C or D-level Management or Economic courses.

6. 1.0 credit of D-level in Management or Economic courses.

Note: In selecting options and electives, students should refer to the guidelines for program breadth and depth found in the [Degree Requirements](#) section of the UTSC *Calendar*.

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