

2015-2016 Undergraduate Calendar

The information published in this Undergraduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2015-2016 academic year, including the Summer Semester 2015, the Fall Semester 2015 and the Winter Semester 2016.

For your convenience the Undergraduate Calendar is available in PDF format.

If you wish to link to the Undergraduate Calendar please refer to the Linking Guidelines.

The University is a full member of:

- The Association of Universities and Colleges of Canada

Contact Information:

University of Guelph
Guelph, Ontario, Canada
N1G 2W1
519-824-4120
<http://www.uoguelph.ca>

Revision Information:

Date	Description
February 3, 2015	Initial Publication
May 22, 2015	2nd Publication
July 20, 2015	3rd Publication
October 9, 2015	4th Publication
May 11, 2016	5th Publication

UNIVERSITY
of GUELPH

CHANGING LIVES
IMPROVING LIFE

Disclaimer

University of Guelph 2015

The information published in this Undergraduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2015-2016 academic year, including the Summer Semester 2015, the Fall Semester 2015 and the Winter Semester 2016.

The University reserves the right to change without notice any information contained in this calendar, including fees, any rule or regulation pertaining to the standards for admission to, the requirements for the continuation of study in, and the requirements for the granting of degrees or diplomas in any or all of its programs. The publication of information in this calendar does not bind the University to the provision of courses, programs, schedules of studies, or facilities as listed herein.

The University will not be liable for any interruption in, or cancellation of, any academic activities as set forth in this calendar and related information where such interruption is caused by fire, strike, lock-out, inability to procure materials or trades, restrictive laws or governmental regulations, actions taken by faculty, staff or students of the University or by others, civil unrest or disobedience, public health emergencies, or any other cause of any kind beyond the reasonable control of the University.

In the event of a discrepancy between a print version (downloaded) and the Web version, the Web version will apply.

Published by: Enrolment Services

Introduction

Collection, Use and Disclosure of Personal Information

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <http://www.e-laws.gov.on.ca/index.html>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes. Certain personal information is disclosed to external agencies, including the Ontario Universities Application Centre, the Ministry of Training, Colleges and Universities, and Statistics Canada, for statistical and planning purposes, and is disclosed to other individuals or organizations in accordance with the Office of Registrarial Services Departmental Policy on the Release of Student Information. For details on the use and disclosure of this information call the Office of Registrarial Services at the University at (519) 824-4120 or see <http://www.uoguelph.ca/registrar/registrar/index.cfm?index>.

Statistics Canada - Notification of Disclosure

For further information, please see Statistics Canada's web site at <http://www.statcan.ca> and Section XIV Statistics Canada.

Address for University Communication

Depending on the nature and timing of the communication, the University may use one of these addresses to communicate with students. Students are, therefore, responsible for checking all of the following on a regular basis:

Email Address

The University issued email address is considered an official means of communication with the student and will be used for correspondence from the University. Students are responsible for monitoring their University-issued email account regularly. See Section I--Statement of Students' Academic Responsibilities for more information.

Home Address

Students are responsible for maintaining a current mailing address with the University. Address changes can be made, in writing, through Enrolment Services.

Name Changes

The University of Guelph is committed to the integrity of its student records, therefore, each student is required to provide either on application for admission or on personal data forms required for registration, his/her complete, legal name. Any requests to change a name, by means of alteration, deletion, substitution or addition, must be accompanied by appropriate supporting documentation.

Student Confidentiality and Release of Student Information Policy Excerpt

The University undertakes to protect the privacy of each student and the confidentiality of his or her record. To this end the University shall refuse to disclose personal information to any person other than the individual to whom the information relates where disclosure would constitute an unjustified invasion of the personal privacy of that person or of any other individual. All members of the University community must respect the confidential nature of the student information which they acquire in the course of their work.

Complete policy at <https://uoguelph.civicweb.net/document/68892/ORSInfoReleasePolicy060610.pdf?handle=FF982F8A9AEA4076BE4F3D88147172B8>.

Learning Outcomes

On December 5, 2012, the University of Guelph Senate approved five University-wide Learning Outcomes as the basis from which to guide the development of undergraduate degree programs, specializations and courses:

1. Critical and Creative Thinking
2. Literacy
3. Global Understanding
4. Communicating
5. Professional and Ethical Behaviour

These learning outcomes are also intended to serve as a framework through which our educational expectations are clear to students and the broader public; and to inform the process of outcomes assessment through the quality assurance process (regular reviews) of programs and departments.

An on-line guide to the learning outcomes, links to the associated skills, and detailed rubrics designed to support the development and assessment of additional program and discipline-specific outcomes, are available for reference on the [Learning Outcomes website](#).

1. Critical and Creative Thinking

Critical and creative thinking is a concept in which one applies logical principles, after much inquiry and analysis, to solve problems in with a high degree of innovation, divergent thinking and risk taking. Those mastering this outcome show evidence of integrating knowledge and applying this knowledge across disciplinary boundaries. Depth and breadth of understanding of disciplines is essential to this outcome.

In addition, **Critical and Creative Thinking** includes, but is not limited to, the following outcomes: **Inquiry and Analysis; Problem Solving; Creativity; and Depth and Breadth of Understanding.**

2. Literacy

Literacy is the ability to extract information from a variety of resources, assess the quality and validity of the material, and use it to discover new knowledge. The comfort in using quantitative literacy also exists in this definition, as does using technology effectively and developing visual literacy.

In addition, **Literacy** includes, but is not limited to, the following outcomes: **Information Literacy, Quantitative Literacy, Technological Literacy, and Visual Literacy.**

3. Global Understanding:

Global understanding encompasses the knowledge of cultural similarities and differences, the context (historical, geographical, political and environmental) from which these arise, and how they are manifest in modern society. Global understanding is exercised as civic engagement, intercultural competence and the ability to understand an academic discipline outside of the domestic context.

In addition, **Global Understanding** includes, but is not limited to, the following outcomes: **Global Understanding, Sense of Historical Development, Civic Knowledge and Engagement, and Intercultural Competence.**

4. Communicating

Communicating is the ability to interact effectively with a variety of individuals and groups, and convey information successfully in a variety of formats including oral and written communication. Communicating also comprises attentiveness and listening, as well as reading comprehension. It includes the ability to communicate and synthesize information, arguments, and analyses accurately and reliably.

In addition, **Communicating** includes, but is not limited to, the following outcomes: **Oral Communication, Written Communication, Reading Comprehension, and Integrative Communication.**

5. Professional and Ethical Behaviour

Professional and ethical behaviour requires the ability to accomplish the tasks at hand with proficient skills in teamwork and leadership, while remembering ethical reasoning behind all decisions. The ability for organizational and time management skills is essential in bringing together all aspects of managing self and others. Academic integrity is central to mastery in this outcome.

In addition, **Professional and Ethical Behaviour** includes, but is not limited to, the following outcomes: **Teamwork, Ethical Reasoning, Leadership, and Personal Organization and Time Management**

Table of Contents

Bachelor of Arts and Sciences (B.A.S.)	442
Program Information	442

Bachelor of Arts and Sciences (B.A.S.)

The University of Guelph offers an 8 semester (20.00 credits) honours program leading to a Bachelor of Arts and Sciences (B.A.S.) degree.

The Bachelor of Arts & Sciences program is designed for students who are motivated equally by the study of Arts/Social Sciences and the Sciences, and who find challenge and satisfaction in testing the traditional boundaries of study through undergraduate level interdisciplinary work. The program meets these objectives through a unique structure that accredits students in an Arts/Social Sciences core, a Sciences core, a Subject Area core of interdisciplinary humanities and sciences courses (ASCI*), and a minor in each of the Arts/Social Sciences and the Sciences (see program information for choices of minors). The structure of the program ensures disciplinary rigour and breadth through completion of core requirements for a B.A.S. degree, concentration in two distinct minors, and concentration of learning in an academic cohort of B.A.S. students through the interdisciplinary ASCI courses in the B.A.S. core. This core is open only to students in the B.A.S. program.

Program Information

Academic Counselling

The B.A.S. program counsellor assists students in the selection of minors, interpreting program and academic regulations, and with the selection of appropriate courses for chosen minors and distribution requirements. Students should consult the counsellor when experiencing particular difficulties affecting academic standing and progress through the program. Students are encouraged to check the B.A.S. program website regularly for course information and cross-listing of acceptable credits where appropriate.

Counselling on Minors

Academic departments offer the minors in the B.A.S. program and assign faculty advisors to assist students with academic planning (e.g., a faculty advisor in the History department handles queries about a minor in History). Students should consult the appropriate faculty advisor, along with the B.A.S. Program Counsellor, when requiring advice on the completion of specialization requirements. The list of faculty advisors is available on the Undergraduate Academic Information Centre website: <http://www.uoguelph.ca/uaiic/facultyadvisors> or contact the B.A.S. Program Counsellor for further information.

Continuation of Study

To be eligible to continue in the program, students must meet the requirements for Continuation of Study as noted in Section VIII--Undergraduate Degree Regulations & Procedures of this calendar (Schedules 1 and 2).

Conditions for Graduation

To qualify for the degree Bachelor of Arts and Sciences, the student must successfully complete a minimum of 20.00 credits as identified below. In addition, students must meet the continuation of study requirements at the time of graduation and have a 60.00% cumulative average.

Distribution Requirements

This program will require the completion of 20.00 credits as indicated below, with a maximum of 7.00 credits at the 1000 level. First year core courses may be counted towards the minors.

1. Science Core - 2.00 credits.
2. Arts/Social Science core - 2.00 credits.
3. Subject Area Core - (ASCI) - 3.00 credits.
4. Arts/Social Science Minor - 5.00 credits minimum.
5. Science Minor - 5.00 credits minimum.
6. Free Electives - 3.00 credits.

1. Science Core - 2.00 credits

Science Core - 2.00 credits as identified by minor below:

Core Requirements for BAS Science Minors

If you choose this BAS Science Minor, then	The BAS Science Core Requirements would be:
Agriculture	BIOL*1070, BIOL*1090, [(CHEM*1040, CHEM*1050) or (MATH*1080, STAT*2040)]
Biochemistry	BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1040
Biology	BIOL*1070, BIOL*1090, [(CHEM*1040, CHEM*1050) or (MATH*1080, STAT*2040)]
Biotechnology	BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050
Chemistry	CHEM*1040, CHEM*1050, MATH*1200, MATH*1210
Computing & Information Science	CIS*1500, CIS*2500, (2 of BIOL*1070, BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050, MATH*1080, PHYS*1070, PHYS*1080)
Ecology	BIOL*1070, BIOL*1090, STAT*2040, (MATH*1080 or MATH*1200)
GIS & Environmental Analysis	GEOG*1300, (1 of MATH*1080, MATH*1200, CIS*1500), (STAT*2040 or GEOG*2460), (1 of BIOL*1070, BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050)
Mathematics	MATH*1200, MATH*1210, STAT*2040, (1 of BIOL*1070, BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050, PHYS*1070, PHYS*1080)
Mathematical Sciences	MATH*1200, MATH*1210, STAT*2040, (1 of CIS*1000, CIS*1200, CIS*1500)
Microbiology	BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050
Molecular Biology and Genetics	BIOL*1080, BIOL*1090, (CHEM*1040, CHEM*1050)
Neuroscience	BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050
Nutritional and Nutraceutical Sciences	BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050
Plant Science	BIOL*1070, BIOL*1090, CHEM*1040, CHEM*1050
Physics	IPS*1500 and IPS*1510 recommended or [PHYS*1070, PHYS*1080, (MATH*1200 or MATH*1080), (MATH*1210 or MATH*2080)]
Psychology: Brain and Cognition	MATH*1080, (PHYS*1010 or STAT*2040), (2 of BIOL*1070, BIOL*1080, BIOL*1090, CHEM*1040, CHEM*1050, PHYS*1070, PHYS*1080)
Statistics	MATH*1200, MATH*1210, STAT*2040, STAT*2050
Zoology	BIOL*1070, BIOL*1090, [(CHEM*1040, CHEM*1050) or [STAT*2040, (MATH*1080 or MATH*1200)]]

2. Arts and Social Science Core - 2.00 credits including:

- 1.00 credits over at least 2 different subject areas in the College of Arts: ARTH - Art History; CHIN - Mandarin; CLAS - Classical Studies; ENGL - English; EURO - European Studies; FREN - French Studies; GERM - German Studies; GREK - Greek; HIST - HISP - Hispanic Studies; History; HUMN - Humanities; ITAL - Italian Studies; LAT - Latin Studies; LING - Linguistics; MUSC - Music; PHIL - Philosophy; PORT - Portuguese; THST - Theatre Studies.

- 1.00 credits over at least 2 different subject areas (listed below) in the College of Social and Applied Human Sciences or College of Business and Economics: ANTH - Anthropology; ECON - Economics; GEOG - Geography; IDEV - International Development Studies; ISS - Interdisciplinary Social Science; POLS - Political Science; PSYC - Psychology; SOAN - Sociology and Anthropology; SOC - Sociology; UNIV - Interdisciplinary University.

3. Subject Area Core (ASCI) - 3.00 credits

- 1.50 credits from:

ASCI*1110	[0.50]	Society and Inquiry I
ASCI*1120	[0.50]	Society and Inquiry II
ASCI*2050	[0.50]	Uses of Knowledge
• 0.50 credits from:		
ASCI*3000	[0.50]	Arts and Sciences Community Project
ASCI*3100	[0.50]	Case Studies in Arts and Sciences Research
ASCI*3700	[0.50]	Independent Studies in Arts/Sciences
• 1.00 credits from:		
ASCI*4010	[1.00]	Arts and Sciences Honours Research Seminar
ASCI*4020	[0.50]	Topics in Arts and Sciences Research
ASCI*4030	[0.50]	Topics in Arts and Sciences Research
ASCI*4700	[0.50]	Independent Studies in Arts/Sciences
ASCI*4710	[0.50]	Independent Studies in Arts/Sciences

Note: Of the 20.00 credits required for this program, 3.00 credits must be completed at the 3000 or 4000 level, and 2.00 credits at the 4000 level. This requirement is partially fulfilled by senior level courses in the Subject Core (ASCI) requirements.

4. Arts/Social Sciences Minors - 5.00 credits (Minimum)

Minors available in the Arts/ Social Sciences core (see B.A. program descriptions):

Anthropology
 Art History
 Business Administration
 Classical Studies
 Criminal Justice & Public Policy
 Economics
 English
 Ethics in the Life Sciences
 European Culture and Civilization
 Family & Child Studies
 French Studies
 Geography
 German
 Hispanic Studies
 History
 International Development
 Italian
 Marketing Management
 Museum Studies
 Music
 Philosophy
 Political Science
 Psychology
 Sociology
 Theater Studies

5. Science Minor - 5.00 credits (Minimum)

Minors available in the Science core (see B.Sc. program descriptions):

Agriculture (see B.Sc.(Agr.) program description)
 Biochemistry
 Biology
 Biotechnology
 Chemistry
 Computing & Information Science
 Ecology
 GIS* & Environmental Analysis
 Mathematics
 Mathematical Science
 Microbiology
 Molecular Biology and Genetics
 Neuroscience
 Nutritional and Nutraceutical Sciences
 Physics
 Plant Science
 Psychology: Brain and Cognition
 Statistics
 Zoology
 * Geographic Information Systems

6. Free Electives - 3.00 credits

The program includes 3.00 free electives. Electives may be completed in any subject area. The number of free electives is reduced if a minor requires more than 5.00 credits.

This program includes 3.00 credits at the 3000 or 4000 level, including 2.00 credits at the 4000 level. This requirement is partially fulfilled by senior level courses in the Subject Area Core (ASCI) requirements.

A maximum of 7.00 credits at the 1000 level may be counted toward the 20.00 credits requirement.

Students cannot, of course, select Psychology or Mathematics for both their B.Sc. and B.A. minors.

Double Counting Rule

A maximum of 3.00 credits may be double-counted:

- 1.00 credits may be double-counted between minors.
- 2.00 credits may be double-counted between a core and one minor.

Students may not triple-count a course between a core and two minors.