FACULTY OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

McGill Macdonald Campus

FRACTAL:
Freshman Advising Connection for Teaching and Learning

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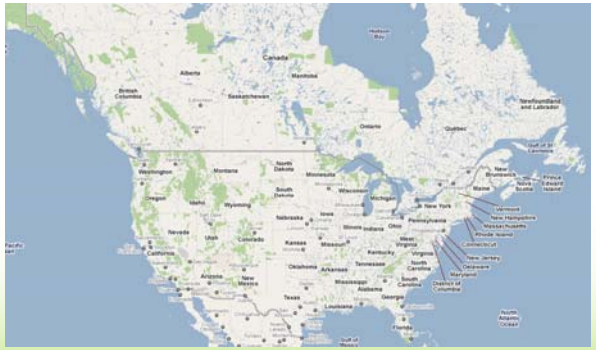
Background: Quebec

- distinct language, culture within Canada/North America



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Background: Quebec

- distinct educational structure within Canada/North America

- official provincial language is French
- educational system which is different from rest of Canada and North America
  - ***students attend high school, and then go to CEGEP***
    - **CEGEP:** *Collège d'enseignement général et professionnel*

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Background: Education in Quebec

- CEGEP programs are typically two years long
  - ***secondary school and undergraduate degrees are both one year shorter in Quebec relative to elsewhere Canada/North America***
  - ***CEGEP program combines the last year of high school (Grade 12) with first year university (freshman year) elsewhere***

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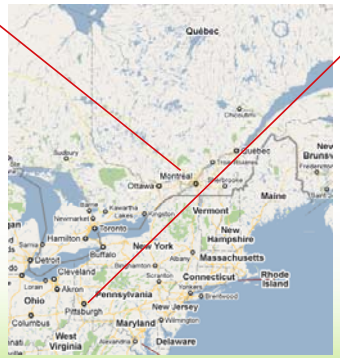
Two Entrance Levels into Quebec University

From Montreal:

High school (up to Grade 11)

CEGEP (2 years)

U1 year of University (sophomore)



From Pittsburgh

High school (up to Grade 12)

U0 year of University (freshman)

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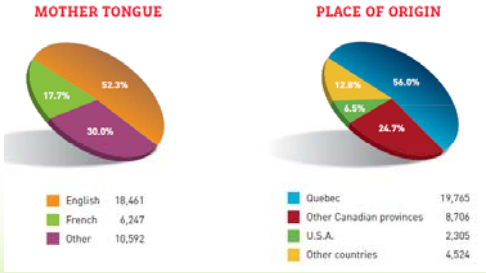
McGill University: officially English

- Medium–sized university with 25000 undergraduates and 8000 graduate students from 160 countries



McGill University has TWO campuses—the Downtown Campus is located in the heart of the city of Montreal; the Macdonald Campus, home of the Faculty of Agricultural and Environmental Sciences, is located in the picturesque town of Sainte-Anne-de-Bellevue, on the western tip of the island of Montreal, just 30 minutes away from the Downtown Campus.

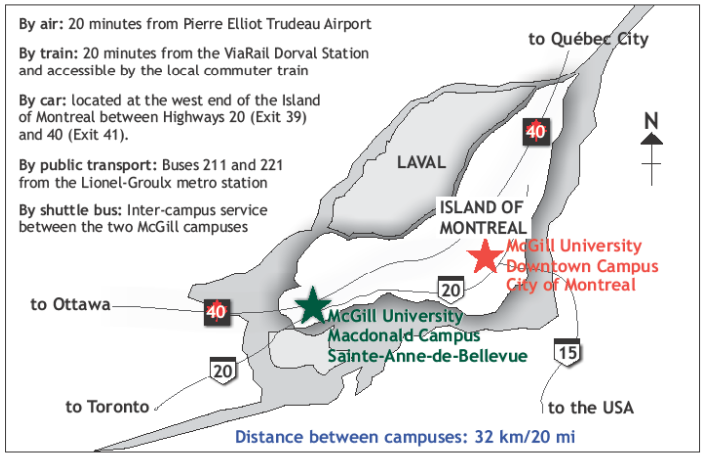
By air: 20 minutes from Pierre Elliot Trudeau Airport

By train: 20 minutes from the ViaRail Dorval Station and accessible by the local commuter train

By car: located at the west end of the Island of Montreal between Highways 20 (Exit 39) and 40 (Exit 41).

By public transport: Buses 211 and 221 from the Lionel-Groulx metro station

By shuttle bus: Inter-campus service between the two McGill campuses



Distance between campuses: 32 km/20 mi

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McGill's Two Main Campuses:

McGill's downtown campus in city of Montreal

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McGill's Two Main Campuses

- Macdonald campus in Ste. Anne-de-Bellevue
  - village/suburban, surrounded by green spaces

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McGill Macdonald Campus

McGill's Macdonald Campus

Faculty of Agricultural & Environmental Sciences (FAES)

- a single-faculty campus
- total undergraduate enrollment of ~1100
- smaller classes →professors, staff, students have opportunity to get to know each other

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Distinguishing feature of our FAES students:

"they want to do something for the world"

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Degrees Offered in FAES

- they pursue studies in
  - *B.Sc. (Ag. Env. Sc.)*
  - *B.Sc. (Food. Sc.)*
  - *B.Sc. (Nutritional Sc.)*
  - *Concurrent B.Sc. (Fd. Sc.)/B.Sc. (Nutr. Sc.)*
  - *B.Eng. (Bioresource)*

Purpose of Freshman Year

- Intended for students who come to McGill from outside of Quebec
  - *Currently have ~130 freshmen*
- typical enrollment in the Faculty (FAES) is about
  - 35-40% Canadian
  - 35-40% American
  - 20-30% international students

Purpose of Freshman Year

- Freshman year provides academic foundation
  - basic science background: biology, chemistry, physics, mathematics
  - plus Freshman Seminar Courses: mixture of adjustment guidance and exposure to areas of study and research in Faculty

Freshman Year Courses (U0 Year)

One year similar to a CEGEP science diploma (DEC) without any of the general education courses

Fall Courses (Sept-Dec)	Winter Semester (Jan-April)
General Biology	Elective/Cell Biology/Linear Algebra
General Chemistry 1	General Chemistry 2/Organic Chemistry
Introductory Physics 1	Introductory Physics 2
Calculus 1	Calculus 2
Freshman Seminar 1	Freshman Seminar 2

Note: there are no non-science courses as is typical of science freshman year in Canada

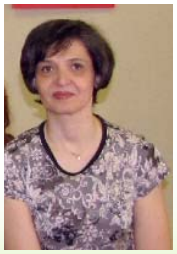
Who are we?

- Prof. Marcia Knutt
  - Faculty Lecturer
  - Director, Freshman Program

Prof. Marcia Knutt

- responsible for administration of overall program (courses, instructors, tutoring, advising, development, recruitment)
- instructor for freshman physics, math as well as upper-level math courses
- Academic Advisor for freshman Engineering students

Who are we?



- Prof. Alice Cherestes, Faculty Lecturer
  - Freshman Advisor
    - responsible for most academic advising
    - Coach, guide students in their transition from high school to university
    - Instructor for Chemistry, Biology courses

Our Background Experience

- Training:
  - » Prof. Knutt: Ph.D. in Theoretical Physics
  - » Prof. Cherestes: Ph.D. in Organic Chemistry
- Professors with administrative duties at Marianopolis College (private CEGEP-type college) for 10 years prior to McGill

Philosophy of Freshman Program

- to create a supportive, welcoming academic environment as students adjust to university life
- personalized attention and support
- advising via Freshman Seminar Course

Freshman Seminar 1

- offered in Fall Semester (Sept. –Dec.)
- assists in transition to university

- Focuses on two main aspects:
  - Academic skills required to be successful in university studies
  - Life skills necessary to integrate into wider university community

Freshman Seminar 1: Academic Skills

- Incorporates two major formative evaluations:
  - Precalculus Diagnostic Test
  - Midterm Assessment

Diagnostic Test for U0 Math: Precalculus

- First class in Calculus is a diagnostic test
  - Based on results, students get a recommendation for course of action
  - Some students are advised to register for Precalculus Lab concurrently with Calculus

Midterm Assessment

- summary of progress after the first round of midterms
  - Students often do not understand the impact and consequences of their midterm grades
  - Implications for GPA !
- alerts students to potential problems in their academic progress

Midterm Assessment

- encourages students to examine all aspects of their university life and seek help
- may include a mandatory appointment with their Academic Advisor (Cherestes/Knutt)

Freshman Seminar 1 : Academic Skills

- seminar/workshop topics on academic expectations and university standards
  - How does university differ from high school?

Freshman Seminar 1 : Academic Skills

- Etiquette/Netiquette
- Academic Integrity
- Test-Taking Strategies
- Reading Skills
- Note-Taking
- Mind-Mapping
- Learning Styles
- Library

Freshman Seminar 1: Life Skills

- necessary life skills to assist with integration into the wider university community
- Seminar Topics/Workshops:
  - Applied/Professional Ethics
  - Time Management
  - Stress Management
  - Careers
  - Budgeting

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Freshman Seminar 1

- "Surviving Freshman Year"
  - presentations by former U0 students who show it is possible to make it through
- Reflection
  - Short written paper summarizing their academic experience in first semester at university

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Freshman Seminar 2

- introduces students to the Faculty research areas in Winter Semester
  - presentations by Faculty and upper-level undergraduate students on degree programs and research projects
  - involvement of some students in small lab research projects

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Freshman Seminar 2

- Culminates in Major's Fair in March
  - students get an opportunity to consult academic advisors and upper-level students regarding future studies
  - with environmentally friendly breakfast

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Professors and Students at Majors' Fair

Our Approach

- We are involved at each stage of a prospective freshman student's contact with McGill, starting with Recruitment
- We continue to answer questions through the application process
- Ultimately assist newly-admitted students with Registration and Orientation

Our Approach

- Involved in design of recruitment materials
- Meet with prospective students and their families during campus visits and events
  - Open House, Campus Connect, Sneak Peek
- Involved in academic aspects of Orientation

Our Approach

- Students and parents contact us with questions after accepting offer of admission
- academically extend and solidify our connection to the students once they arrive on campus
- We are both their professors and their academic advisors

Our Approach

- together we teach 10 of the 13 required freshman courses

  - » we see the students in class every day, get to know them
  - » are aware of how they learn, study, interact
- helps prevent minor problems from becoming major ones

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Our Pedagogical Approach: in the Classroom

- Teaching/Learning Best Practices
  - using Active Learning Techniques for student engagement (clickers)
  - Lectures via Tablet PC with PPT skeletal slide presentations
  - teach our own tutorials – no TA's

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Our Pedagogical Approach: in the Classroom

- Use Teaching/Learning Best Practices
  - Lecture Recording
  - WebCT – online course management system – all course materials in one place

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Our Approach: Professor and Coach

- Vertical integration of all aspects of instruction is an important part
- Recognize importance of Supplemental Instruction and "Freshman Instructional Unit"
- Recognize role of Teaching Assistants and Tutors

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Our Approach: Administration/Coaching

- Involvement in Group Tutoring with Tutoring Services
  - Free, drop-in group tutoring, 2 hours per subject per week in Physics and Calculus
    - Suggest possible candidates as Group Tutors
    - Coach and advise students, teaching assistants, tutors

Our Approach: as Administrator/Coach

- Peer Tutoring Network
  - Encourage networking amongst students
  - Peer tutors/guides are former students who assist current students with adjustment difficulties
    - Academic, Cultural, Linguistic, etc.

How do we do it?: Professor/Administrator/Advisor

- We are the common point of contact for students
- Liaison between various university offices
  - ***Enrollment Services - Admission***
  - ***Student Affairs Office***
  - ***Student Services***
  - ***Student Life***

Enrollment Statistics for Freshman Year (U0)

Academic Year	Total
2010-11	128
2009-10	93
2008-09	57
2007-08	88
2006-07	69
2005-06	46

1st year of new program

Prof. Cherestes hired

Prof. Knutt hired

Enrollment in Freshman Program

Academic Year	B.Sc. (Ag Env Sc)	B.Sc. (Fd Sc)	Concurrent B.Sc. (Fd Sc)/ B.Sc. (Nutr Sc)	B.Sc. (Nutr Sc)	B. Eng. (Bioresource)	Total
2010-11	65	5	4	32	22	128
2009-10	53	1	1	26	12	93
2008-09	31	1	1	16	11	60
2007-08	48	3	----	27	7	85

Academic Standing for Freshman Students

Academic Year	Total	Unsatisfactory or On Probation	Failure Rate
2010-11	128	---	---
2009-10	93	3	3.2 %
2008-09	57	8	14.00 %
2007-08	88	20	22.70 %
2006-07	69	11	15.90 %
2005-06	46	4	8.70 %

Retention in Faculty after U0 Year

Academic Year	Transfers				Other	Academic Reasons	% Retained
	Arts	Science/ Eng'g	Other	not McGill			
2010-11	4	2	1	2 (1)	4	1	~92% (~85%)
2009-10	7	4	1	3 + (1)?	2	1	~90% (~78%)
2008-09	4	4 (2)	1	4 (2)	1	2	~87% (~75%)

- red percentages indicate rates for students who stayed within the Faculty after freshman year
- black percentages indicate rates for students who stayed at McGill, but switched faculties

Macdonald Campus students at Majors' Fair

http://www.mcgill.ca/macdonald/prospective/freshmanyear