

# University of Calgary Report

## British Columbia Land Surveyors Association AGM

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## Outline

- Departmental news
- Undergraduate Curriculum
- Training of students and interns.

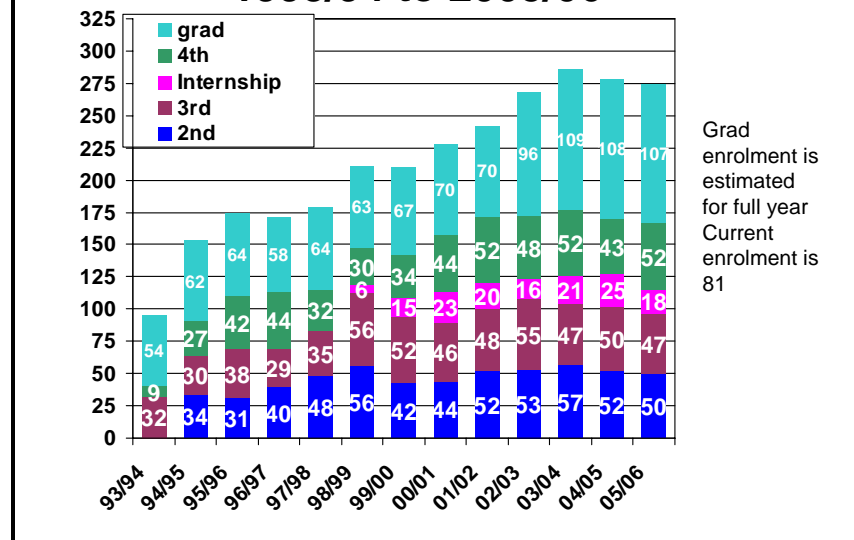
## Faculty Donation

- Seymour Schulich donated \$25 million (\$15 M now and \$10 M later) which has been matched by the Alberta Government (total = \$50 M)
- Faculty has been renamed the **Schulich School of Engineering**
- \$15 M will be spent down over the next 10 years to kick start faculty plans (+ interest on matching \$15 M)
  - Undergrad scholarships at \$10k/year (or 20k/year for students outside of Calgary) based on academic merit or community service/entrepreneurship)
  - Three Chairs (none in Geo!)
  - Support for student field trips, student clubs, etc.

## Departmental News

- Alberta Land Surveyors Association Donation of \$90,000 over three years for research in Cadastral systems
- Dr Mele Rakai taken up a post in Fiji
- Dr Nico Sneeuw taken a post in Stuttgart
- Accredited by CCLS in 2005
- Accreditation visit by CEAB in October 2005.

## Student Enrolment 1993/94 to 2005/06



Geomatics Engineering Advisory Committee 2004

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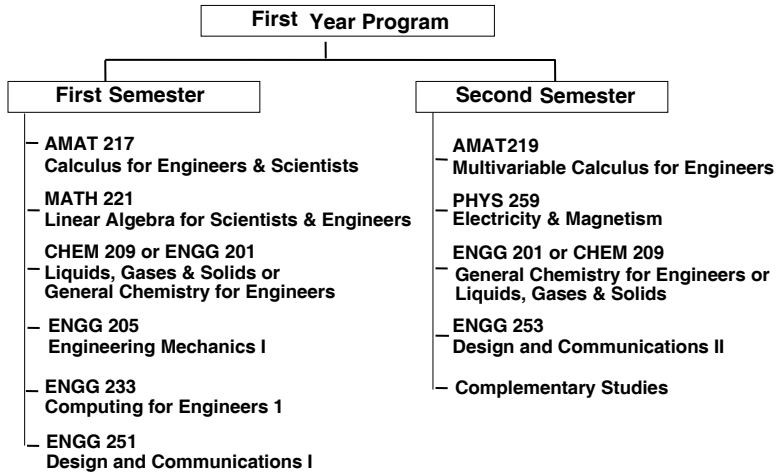
## Curriculum Changes

- Curriculum is reviewed on a regular basis to ensure that future industry needs and core knowledge is being taught
- Latest review conducted in summer 2004
- Some of the drivers behind current changes
  - Graduates should have **required** core knowledge and skills of satellite positioning systems
  - New **technical electives** should be introduced to capture future trends
  - GIS area should be **expanded**
  - Revised curriculum introduced in fall 2005

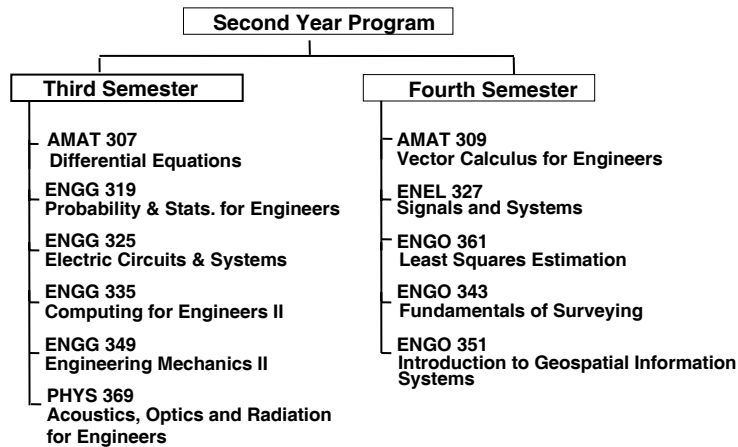
Geomatics Engineering Advisory Committee 2004

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## Undergrad Program First Year (Common Core)

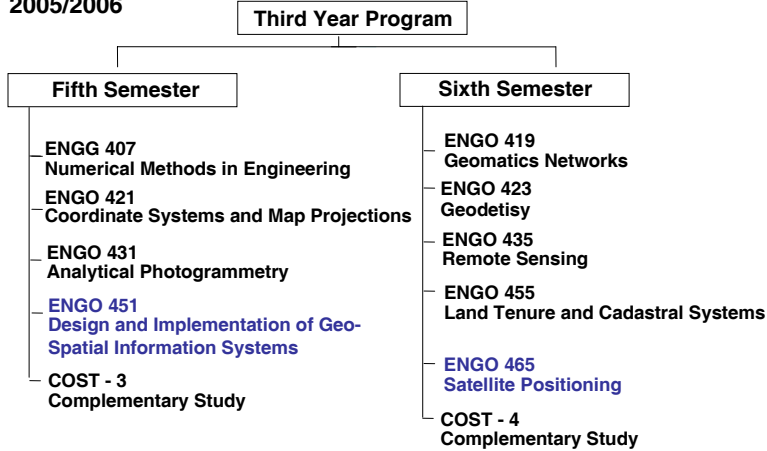


## Undergrad Program Second Year



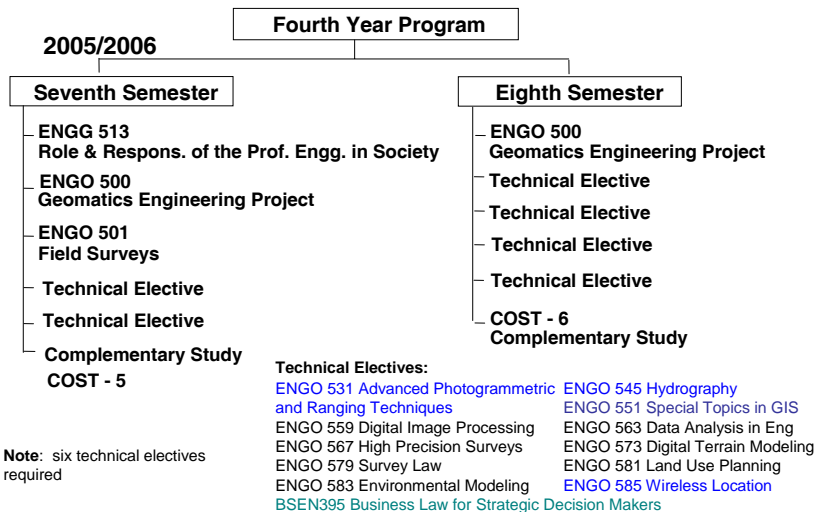
## Undergrad Program Third Year

2005/2006



## Undergrad Program Fourth Year

2005/2006



## Technical Electives

- ENGO 531 Advanced Photogrammetric and Ranging Techniques
- ENGO 545 Hydrography
- ENGO 551 Special Topics in GIS
- ENGO 559 Digital Image Processing
- ENGO 563 Data Analysis in Eng
- ENGO 567 High Precision Surveys

## Technical Electives

- ENGO 573 Digital Terrain Modeling
- ENGO 579 Survey Law
- ENGO 581 Land Use Planning
- ENGO 583 Environmental Modeling
- ENGO 585 Wireless Location
- BSEN395 Business Law for Strategic Decision Makers

## Surveyors' Training and Basic Skills

- Millennial generation
  - Technology is natural
  - Formative years highly organised – not challenging
  - Brute force rather than logic to solve problems
  - Measurement perhaps plays a lesser role in recreational activities as a child
- Technology in Surveying – the black box effects
  - Impacted basic understanding
  - Reduced errors in surveying
  - Reduced basic knowledge and skills in interpreting error – gross, systematic and random

## Basic Training Tasks

- Levelling – calibration of levels, staffs and run levelling lines
- Theodolites – calibration of axes, plate bubbles, tribrach optical plummets
- Theodolite observations – observing and reducing arcs; computations of intersections and resections
- EDM baseline calibration & steel band calibration
- Calibrating prism poles
- Traversing observations and computations – identifying errors in traverses

## Recommendations

- All professional surveyors should be skilled in the above
- Training should start during student vacations – there are limits to what a person learns by being a chainman
- Investing in training at an early stage can avoid costly mistakes later on
- Consider including High Precision Course as a core for board examinations (my personal view)