Minutes of the Mathematics Faculty Council held Tuesday, September 15, 2020 at 3:30 p.m. via Webex. There were 87 attendees.

1. The minutes of the Faculty Council meeting held April 21, 2020 were approved.

2. Report from the Dean – Mark Giesbrecht (attached)
   - The Dean thanked the Faculty and Staff. With so many first year students back on campus this has been an extraordinarily heavy time. Faculty have done an excellent job of bringing our entire program online. Staff support has been extraordinary, on campus and online, in continuing difficult circumstances.
   - Return to Campus
     - Departmental plans have been submitted and approved
     - Campus rules. The Dean is aware that there are concerns with some students not adhering to rules on campus. If you are campus follow the rules as an example. If you see violations, please bring them to our attention.
     - Talk to Dean’s office or Jodi Szimanski for assistance on handling media
   - Winter 2021 plans within Math are being made based on the assumption of a hybrid model similar to that which exists for Fall 2020. We expect that MATH 136 and MATH 138 will have some on-campus sections, and that some graduate courses will be offered in person.
   - There are new Professorial faculty positions opening; planning and advertising can commence immediately to support Math’s large incoming class. The Dean is working with unit heads to set position counts and priorities. We have hired 7 lecturers in May/June, and there is the potential to hire up to 11 more Lecturers as needs arise.
   - The Dean introduced the Faculty’s new Anti-Racism Working Group led by Anita Layton and Mei Nagappan. Membership currently includes Ghazal Geshnizjani, Naomi Nishimura, Jon Yard, Giang Tran, Rahim Moosa, Mary Hardy, Judith Koeller, Cherisse Mike, Kevin Hare, and Mark Giesbrecht.
   - Computing Infrastructure
     - 2 Factor Authentication is coming November 1 and will be necessary for many online resources, including Learn and Office365
     - We now have a campus-wide Matlab license
     - Alibaba VPN is apparently working well to allow access from China
   - Profound Impact Day held September 14, 2020 was a great success
• Black & Gold Alumni Day upcoming on September 26th to be held online

3. Report from the Associate Dean, Undergraduate Studies - B. Charbonneau
   • The Associate Dean provided an update on MTHEL 199 (First Year Readiness). The August offering initially had more than 2700 students; some were moved to the September offering. There is another offering from Sept. 8-Oct. 22 with 228 students enrolled, plus a non-credit ELAS group with 207 students.

   • Motion Group 1: Course Changes
     - Motion carried

   • Motion Group 2: Regulation Changes
     - Motion carried

   • Motion Group 3: Plan changes

   • There was a question about the inclusion of CS 498 on the list of CS Technical Electives that SE students are permitted to take, since CS 498 is a ‘topics’ course. The Software Engineering Director responded that the Curriculum Committee felt that any course that CS approved would be satisfactory as a technical elective.
     - Motion carried

4. Report from the Associate Dean, Graduate Studies - A. Kolkiewicz
   • Motion 1 Applied Mathematics calendar updates
     - Motion carried

   • Motion 2 Computer Science
     - Motion carried

5. The Mathematics Faculty Performance Guidelines – D. McKinnon
   • The text on page 4 regarding members who have been on leave must be revised as follows to comply with the FAUW/UW Memorandum of Agreement section 13.5.4.b:

   "A continuing Member who has been on leave shall receive in any category where assessment is not possible as a result of the leave, a rating equal to the average ratings of the three previous years in which the Member was not on leave."

   • Motion to approve: David McKinnon; second: Ian Goldberg
     - Motion carried

6. Report from the Associate Dean, Undergraduate Admissions and Outreach - T. Vasiga
   • Report on 1A Enrolment. The Faculty 1A intake target as of December 2019 was 1280; in June the target was revised to 1726. We currently have 2452 confirmed. The estimated November 1 Math Faculty Count is between 2132 and 2274.

   • Staff Changes

   • Outreach and Recruitment Activities
The complete report is attached to the minutes.

7. Future meeting times were announced
8. There was no other business

The meeting adjourned at 4:55 PM.
Math Faculty Council
Dean’s Report

9/16/20

Presented by: Mark Giesbrecht
Dean, Faculty of Mathematics
Day 76
Faculty and Staff Thank You

The last six months have been extremely busy and stressful for all: students, faculty and staff

- We must all be mindful to acknowledge the stress on ourselves and our colleagues, and the consequences both long and short term
- I’d personally like to thank our staff and faculty for the enormous efforts to keep the university running, for taking ALL our courses online, and for maintain collegial discourse and decision making in shaping the Faculty of Math going forward
- Fall 2020 has been very heavy, with students both on campus and online
  - 407 first-year math undergraduate students on campus, in residence (out of 1432)
  - 24 sections each of Math 135 and 137
  - A full slate of online courses in all sections
- Faculty have done an excellent job of bringing our entire program online over the past 2 terms
- Staff have been extraordinary, on campus and online
Return to Campus

- All departments/School have submitted plans for return to campus which have been approved.

- Access to many buildings is controlled. Please be sure to contact your Chair/Director of Administrative Officer for instructions.

- There are many rules for on-campus access:
  - Masks, distance, direction of flow, building/floor/room capacity, ...
  - Please be mindful of these restrictions – lead by example.
  - Please let us know if there are violations or concerns – things could easily be shut if we do not adhere to these rules.

- Talking to the Media:
  - Media may approach you on issues regarding COVID. What is printed is not always what you intend!
  - Please feel free to reach out to the Dean’s office or Jodi Szimanski for assistance on handling media.
**Winter 2021**

- We are coordinating Winter 2021 internal academic planning based on the assumption of an overall hybrid model, anticipating that the overall guidance and mixture of in person vs online modalities will be somewhat similar to that which exists for F2020.

- This is not a public announcement, but is our operational policy.

- Currently this means that Math 136 and 138 will have some on-campus sections, and some grad courses will be offered in person.
Faculty Hiring

- Professorial hiring
  - In August I requested a large number of professorial faculty hires to support Math’s large incoming class, especially going into year 2 next year
  - As of this past weekend I received permission from the Provost to re-activate most of the professorial positions that were frozen in March!
  - I am working with unit heads to set position numbers and priorities in the units
    - I have also asked for an EDI hiring plan for each unit
  - There is an explicit expectation of the Provost allow more incremental professorial lines once final student numbers and other financial realities are understood

- Lecturer hiring
  - We hired 4 lecturers in the MUO and 3 in CS in May-June
  - Potential to hire up to 3 more lecturers as needs arise
Anita Layton and Mei Nagappan will chair a Faculty of Math working group to establish our ongoing Faculty response to anti-Black and Indigenous racism in particular, and help to define the Faculty of Math approach to Equity, Diversity and Inclusion more generally.

This is a working group because it seeks to define both define the mandate, membership, and terms of reference for a subsequent committee or other activities, and to help coordinate activities throughout the faculty (i.e., in the departments/School)

It will be funded from the Dean’s office, in particular for staff and student support

Membership currently also includes Ghazal Geshnizjani, Naomi Nishimura, Jon Yard, Giang Tran, Rahim Moosa, Mary Hardy, Judith Koeller, Cherisse Mike, Kevin Hare, and Mark Giesbrecht.
Computing Infrastructure

- 2 Factor Authentication (2FA) is coming soon (November 1) and will be necessary for a number of online resources, including Learn and O365 (but not Exchange)
  - This could affect your access, so please check that things are in order ASAP
- We now have a campus-wide Matlab license (sponsored by Engineering and Math) for all students, faculty and researchers, on and off campus
- The Alibaba VPN is apparently working well to allow access from China to campus resources
  - It is generating some media traffic and requests
  - Please feel free to direct any inquiries to myself, Jodi or Steve
Profound Impact Day activities held September 14, 2020

ALL DAY  PROFOUND IMPACT DAY LAUNCH
The inaugural Profound Impact Day will be recognized on September 14, 2020 in Waterloo celebrate the global impact of the Faculty of Mathematics and its role as an international centre of research and discovery. On what would have been Prof. Scott Vanstone’s 78th birthday, university alumni, faculty and students across the globe will join in a celebration of the power and impact of faculty members and researchers.

How to participate in Profound Impact Day: By using #profoundimpactday to share your stories of how individuals have impacted your personal or professional journey. By bringing your stories together as a collective we can begin to measure and celebrate the worldwide impact and enable the exploration of hidden or unrecognized connections for collaborative purposes.

12:00 – 1:00 PM  THE POWER OF DIGITAL ENGAGEMENT WITH ALUMNI, FACULTY AND STUDENTS
Advancement and alumni professionals are invited to join this inaugural Profound Impact Day event to celebrate the power of networks forged at academic institutions resulting in impactful solutions to global challenges.

Presentation:
● Barney Ellis-Perry, renowned Fundraising and Alumni Engagement Strategist
Remarks By:
● Mayor Dave Jaworsky (BMath ’88), Mayor, City of Waterloo
● Sherry Shannon-Vanstone, President and CEO of Profound Impact — on security and privacy of the platform

4:00 – 5:00 PM  IMPACT & BEYOND
Showcasing the profound impact of early discovery, experimentation, and disruption through research and invention. Researchers today build on the knowledge and discoveries made by those who have come before them. How can today’s researchers light the early pathways and curiosities for the research breakthroughs of the future? How can we demonstrate the impact and potential of the yet-to-be known? And, what if any, role does academia, industry, the Faculty of Mathematics, and Canada play in increasing the discovery journey to these new frontiers?

Presentation:
● Professor Michele Mosca (BMath ’95), co-founder of Waterloo’s Institute for Privacy and Security and the Institute for Quantum Computing, and a leader in the field of quantum information
Moderator:
● Camelia Nunez, Faculty of Mathematics’ Director of Innovation and Research Partnerships
Remarks By:
● Mayor Dave Jaworsky (BMath ’88), Mayor, City of Waterloo
● Sherry Shannon-Vanstone, President and CEO of Profound Impact
8:30 am  Dean’s Lecture with Mark Giesbrecht, Dean, Faculty of Mathematics
Meet the newly appointed Dean as he shares the present strengths of the Faculty of Mathematics and his vision for the future. Moderated by Waterloo Board of Governor’s Chair, Cindy Forbes

10:00 am  Harnessing the power of math to revolutionize health care – Lightning Lecture & Panel
From AI to mathematical modelling to big data analysis, mathematics is powering a revolution in health care. It is enabling us to anticipate with unprecedented accuracy the spread of a virus, the mutation of a disease and the effectiveness of a drug. It is enabling us to discover new medicines faster, to improve the precision of delicate surgeries and to create smart medical devices that save lives. And it is helping us analyze massive amounts of data to make smarter decisions about the use of limited resources.

COVID-19 has tested our resilience, given us a preview of the challenges ahead, and issued the warning: we must be better prepared so that we prevent a crisis of this scale from happening again. Join us for a panel featuring – Anita Layton, Cecilia Cotton, Jochen Koenemann and Christina Leslie - who are working to find a way forward.

11:30 am  From burning millions to profitability and back to growth in 60 days: A 10-step playbook for venture-backed start-ups – Fireside
SnapTravel co-founders, Henry Shi and Hussein Fazal, sit down for a virtual fireside chat with Camelia Nunez, Director of Innovation and Research Partnerships, to talk about their recent COVID-19 turnaround.

1:00 pm  The power and impact of theory: a celebration of the beauty of foundational mathematics – Panel
A panel discussion among Faculty Mathematics professors about the importance and beauty of foundational abstract mathematics, and why it matters

3:00 pm  Building brains for the future: An interactive hour of math and computing fun for grades 4-8 – Hands-on Activity
Calling all students in Grades 4 to 8, their parents, and their teachers. It’s time to stretch your brain and have some fun. Join us for interactive activities, problems to solve, pointers to existing materials and more! Presented by the Centre for Education in Mathematics and Computing (CEMC) this session will provide fun and educational ways for your children to do mathematics and computer science while at home.

REGISTER TODAY!
QUESTIONS ALWAYS WELCOME!
Report from the Associate Dean, Undergraduate Admissions and Outreach

Troy Vasiga

September 15, 2020
# Math Faculty 1A Enrollment as of September 15, 2020

<table>
<thead>
<tr>
<th>Plan</th>
<th>Dec Target</th>
<th>Jun Target</th>
<th>App</th>
<th>Adm</th>
<th>Conf</th>
</tr>
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<tbody>
<tr>
<td><strong>Business and Accounting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>55</td>
<td>52</td>
<td>432</td>
<td>255</td>
<td>60</td>
</tr>
<tr>
<td>DD (Math/Bus)</td>
<td>70</td>
<td>80</td>
<td>785</td>
<td>407</td>
<td>107</td>
</tr>
<tr>
<td>FARM - Reg</td>
<td>10</td>
<td>9</td>
<td>164</td>
<td>70</td>
<td>14</td>
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<tr>
<td>FARM - Co-op</td>
<td>125</td>
<td>106</td>
<td>1392</td>
<td>994</td>
<td>228</td>
</tr>
<tr>
<td>Math Bus - Reg</td>
<td>20</td>
<td>4</td>
<td>76</td>
<td>27</td>
<td>2</td>
</tr>
<tr>
<td>Math Bus - Co-op</td>
<td>40</td>
<td>18</td>
<td>528</td>
<td>277</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total (Bus-Acc)</strong></td>
<td>310</td>
<td>269</td>
<td>3377</td>
<td>2030</td>
<td>453</td>
</tr>
<tr>
<td><strong>Computer Science</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS - Reg</td>
<td>10</td>
<td>6</td>
<td>593</td>
<td>79</td>
<td>17</td>
</tr>
<tr>
<td>CS - Co-op</td>
<td>335</td>
<td>581</td>
<td>6085</td>
<td>1787</td>
<td>878</td>
</tr>
<tr>
<td>DD (CS/Bus)</td>
<td>50</td>
<td>70</td>
<td>1103</td>
<td>255</td>
<td>82</td>
</tr>
<tr>
<td><strong>Total (CS)</strong></td>
<td>395</td>
<td>657</td>
<td>7781</td>
<td>2121</td>
<td>977</td>
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<tr>
<td><strong>Math</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Math - Reg</td>
<td>170</td>
<td>132</td>
<td>641</td>
<td>1295</td>
<td>156</td>
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<tr>
<td>Math - Co-op</td>
<td>395</td>
<td>668</td>
<td>3864</td>
<td>4116</td>
<td>866</td>
</tr>
<tr>
<td><strong>Total (Math)</strong></td>
<td>545</td>
<td>800</td>
<td>4505</td>
<td>5411</td>
<td>1022</td>
</tr>
<tr>
<td><strong>Total Faculty</strong></td>
<td>1280</td>
<td>1726</td>
<td>15663</td>
<td>9562</td>
<td>2452</td>
</tr>
</tbody>
</table>
Notes:

1) The estimated November 1 Math Faculty count according to IAP is between 2132 and 2274.

2) We received 15,663 applications in 2020, compared to:

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<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apps</td>
<td>16,298</td>
<td>16,301</td>
<td>14,365</td>
<td>13,901</td>
<td>10,859</td>
<td>10,791</td>
<td>9,190</td>
<td>8,555</td>
</tr>
</tbody>
</table>

3) 50.4% are OSS Domestic, 9.8% NOSS Domestic, 13.5% OSS Visa, 26.4% NOSS Visa

4) The overall Female/Male/U/A split is 32.2%/66.3%/0.1%/0%. The Female/Male split by area is:
   - Business and Accounting – 50%/50%,
   - Computer Science – 26%/74%
   - Math (Honours Co-op & Reg) – 32%/68%.
Enrollments in Other Programs as of June 1, 2020

<table>
<thead>
<tr>
<th>Plan</th>
<th>Target</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFM</td>
<td>45</td>
<td>76</td>
</tr>
<tr>
<td>SE</td>
<td>127</td>
<td>148</td>
</tr>
<tr>
<td>Math ELAS</td>
<td>150</td>
<td>271</td>
</tr>
</tbody>
</table>

Notes:
1) The ELAS Female/Male split is 36%/64%.
# First Year International Enrollment by Country

Listed below are 1A international (last school attended) student enrollments as of June 6, 2020 by country with 5 or more students. There are 45 different countries from which students have confirmed.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>365</td>
</tr>
<tr>
<td>India</td>
<td>165</td>
</tr>
<tr>
<td>UAE</td>
<td>48</td>
</tr>
<tr>
<td>USA</td>
<td>34</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>25</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>18</td>
</tr>
<tr>
<td>Indonesia</td>
<td>15</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>10</td>
</tr>
<tr>
<td>Pakistan</td>
<td>10</td>
</tr>
<tr>
<td>Oman</td>
<td>9</td>
</tr>
<tr>
<td>Qatar</td>
<td>9</td>
</tr>
<tr>
<td>Mauritius</td>
<td>8</td>
</tr>
<tr>
<td>Vietnam</td>
<td>7</td>
</tr>
<tr>
<td>Malaysia</td>
<td>6</td>
</tr>
<tr>
<td>Barbados</td>
<td>5</td>
</tr>
</tbody>
</table>
Recruiting Events (Recent and Upcoming)

- August: 4 India “visits” including one “fair”
- September: India visits (6), Phillipines, Singapore, East Asia & Oceania Fair, China, US, Caribbean
- October: OUF (virtually; October 2), UAE, Qatar (week-long), Oman, Mauritius, China, Trinidad & Tobago
- Fall Open House: Saturday November 7.
CEMC Outreach Notes

- 10M courseware pageviews in 2019/2020 (up from 3.1M pageviews in 2018/2019)
- 300K downloads of newly created CEMC @ Home materials from mid-March to late June
- Planning for full contest cycle in 2020/2021, balancing flexibility for broad participation with possible competitive integrity issues that could arise
- Working at moving various workshop and conference events online (had 1000 registrations for Summer Teacher Conferences, compared to usual 200 in-person registrations)
- Creating infrastructure to be able to provide interactive outreach workshops to schools worldwide; we will begin to make these more known as schools (hopefully) “settle in” to their 2020/2021 situations