**University of Waterloo**  
**SENATE**  
**Notice of Meeting**

**Date:** Monday, January 17, 2011  
**Time:** 4:00 p.m.  
**Place:** Needles Hall, Room 3001

Open agenda/minutes are at:  
www.adm.uwaterloo.ca/infosec/governance/senate.htm

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
<th>Page</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00</td>
<td><strong>OPEN SESSION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td><strong>Consent Agenda</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td><strong>Motion:</strong> That Senate approve or receive for information by consent items 1-4 below.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td>1. Approval of the November 15, 2010 Minutes</td>
<td>2, A1</td>
<td>Decision</td>
</tr>
<tr>
<td>4:00</td>
<td>2. Report of the Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td>a. Recognition and Commendation</td>
<td>2, A2-A20</td>
<td>Information</td>
</tr>
<tr>
<td>4:00</td>
<td>3. Reports from the Faculties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td>4. Other Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td>a. COU Report</td>
<td>2, A21-A22</td>
<td>Information</td>
</tr>
<tr>
<td>4:00</td>
<td>b. Board of Governors/Senate Council Appointments</td>
<td>2, A23</td>
<td>Decision</td>
</tr>
<tr>
<td>4:00</td>
<td><strong>Regular Agenda</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:05</td>
<td>5. Business Arising from the Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:10</td>
<td>6. Presentations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:10</td>
<td>a. Enrolment Plans</td>
<td>2</td>
<td>Information</td>
</tr>
<tr>
<td>4:25</td>
<td>b. Graduate Studies</td>
<td>2</td>
<td>Information</td>
</tr>
<tr>
<td>4:40</td>
<td>c. Graduate Student Association</td>
<td>2</td>
<td>Information</td>
</tr>
<tr>
<td>4:55</td>
<td>7. Report of the Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:55</td>
<td>a. Environmental Scan</td>
<td>2</td>
<td>Information</td>
</tr>
<tr>
<td>5:05</td>
<td>8. Report of the Vice-President, Academic &amp; Provost</td>
<td>2</td>
<td>Information</td>
</tr>
<tr>
<td>5:25</td>
<td>10. Report of the Vice-President, University Research</td>
<td>2</td>
<td>Information</td>
</tr>
<tr>
<td>5:35</td>
<td>11. Reports from Committees and Councils</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:35</td>
<td>a. Executive Committee</td>
<td>2, A25-A124</td>
<td>Information/Discussion</td>
</tr>
<tr>
<td>5:50</td>
<td>b. Graduate &amp; Research Council</td>
<td>2, A125-A126</td>
<td>Decision/Information</td>
</tr>
<tr>
<td>6:00</td>
<td>c. Undergraduate Council</td>
<td>2, A127-A148</td>
<td>Decision/Information</td>
</tr>
<tr>
<td>6:10</td>
<td>12. Other Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:10</td>
<td>a. Change to Policy 49, Extra-University Activity</td>
<td>2, A149</td>
<td>Decision</td>
</tr>
<tr>
<td>6:20</td>
<td>b. Diploma Design Update</td>
<td>2</td>
<td>Information</td>
</tr>
<tr>
<td>6:30</td>
<td>c. New Policy 10, Naming Opportunities</td>
<td>2, A150-A151</td>
<td>Information</td>
</tr>
<tr>
<td>6:40</td>
<td><strong>CONFIDENTIAL SESSION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:40</td>
<td>13. Approval of the November 15, 2010 Minutes</td>
<td></td>
<td>Decision</td>
</tr>
</tbody>
</table>

**LC:** tad  
**January 7, 2011**  
**Lois Claxton**  
**Secretary of the University**
The Executive Committee met on January 4, 2011 and wishes to report as follows:

OPEN SESSION

Consent Agenda
2. REPORT OF THE CHAIR
   Recognition and Commendation. The committee agreed to forward this report to Senate for information.

3. REPORTS FROM THE FACULTIES
   The committee agreed to forward these reports to Senate for information.

4. OTHER BUSINESS
   COU Report. Forwarded to Senate for information.

   Board of Governors/Senate Council Appointments. The committee agreed to recommend these appointments to Senate for approval.

Regular Agenda
6. PRESENTATIONS
   Enrolment Plans. The registrar will report.

   Graduate Studies. Presented by the associate provost, graduate studies.

   Graduate Student Association. The GSA president will present this item.

7. REPORT OF THE CHAIR
   The chair will provide a brief environmental scan.

8. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST
   The vice-president will report as appropriate.

9. REPORT OF THE VICE-PRESIDENT, EXTERNAL RELATIONS
   The vice-president will report as appropriate.

10. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH
    The vice-president will report as appropriate.

11. REPORTS FROM COMMITTEES AND COUNCILS
    Executive Committee. The committee agreed to forward this report to Senate for information and discussion as indicated.

    Graduate & Research Council. The committee agreed to forward this report to Senate for approval and information as indicated.

    Undergraduate Council. The committee agreed to forward this report to Senate for approval and information as indicated.

12. OTHER BUSINESS
    Change to Policy 49, Extra-University Activity (Faculty Members). The committee agreed to recommend this change to Senate for approval.

    Diploma Design Update. The registrar will provide this update.

    New Policy 10, Naming Opportunities. Forwarded to Senate for information.
University of Waterloo  
SENATE  
Report of the Chair  
January 17, 2011

FOR INFORMATION

Recognition and Commendation

Keith Hipel, professor of systems design engineering, is the winner of the 2010 Ontario Professional Engineers Medal in Research and Development. “Professor Hipel is recognized internationally for his research on the development and application of conflict resolution and time series analysis techniques. His interdisciplinary research in systems management has had a significant influence on handling strategic and uncertainty components of decision making in water resources, environmental engineering and elsewhere,” a news release states.

Computer science professor Ming Li (Canada research chair in bioinformatics and university professor) was one of five Canadian academics presented with the 2010 Killam Prizes by Governor General David Johnston at a recent ceremony in Ottawa. Five Killam Prizes are awarded each year to Canadian scholars in the fields of health sciences, natural sciences, engineering, social sciences and humanities. Recipients are chosen by a committee of 15 eminent Canadian scholars appointed by the Canada Council. “These prizes are Canada’s most distinguished annual awards for outstanding career achievements in these fields and are an important part of building Canada’s future through research,” a news release states.

Linda Nazar, professor of chemistry, is this year’s winner of the Rio Tinto Alcan Award, given by the Canadian Society for Chemistry. The award recognizes “a scientist who has made a distinguishing contribution to the fields of inorganic chemistry or electrochemistry while working in Canada” – in Nazar’s case, work at the nano level that has already led to the development of powerful new lithium-sulphur batteries. Nazar will receive a cheque and a scroll during the 94th Canadian Chemistry Conference in Montreal, and has been asked to present a lecture at the conference.

Computer science professor Tamer Özasu has been named a new fellow of the Institute of Electrical and Electronics Engineers. Özasu was cited for “his contributions to distributed data management and multimedia database systems.”

Frank Tompa, a professor at the David R. Cheriton School of Computer Science, has been named a fellow of the Association for Computing Machinery “for his contributions to text-dominated and semi-structured data management.” Tompa is one of the 41 inductees from the world’s leading universities, corporations, and research labs who “have provided fundamental knowledge to the field and generated multiple innovations in industry, commerce, entertainment, and education,” says the announcement from ACM, the world’s largest educational and scientific computing society.

The director of alumni affairs, Jason Coolman, has been honoured by the Council for the Advancement and Support of Education as a “Rising Star.” CASE gives the award to professionals at universities across North America who demonstrate “the potential for leadership in advancement programs, enthusiasm for and commitment to the advancement profession, and understanding the needs and goals of the philanthropic tradition.”

Waterloo’s “Refer a Student” initiative won a Silver Award in the category Best Practices in Communications and an Honorable Mention in the category Special Programs/Advertising in the 2010 CASE II Accolades Awards.
FOR INFORMATION

A. APPOINTMENTS

Adjunct Appointments

Undergraduate Instruction

BRAYHAM, Angela, Lecturer, Department of Recreation & Leisure Studies, May 1, 2011 to August 31, 2011.

CHESSER, Stephanie, Lecturer, Department of Recreation & Leisure Studies, May 1, 2011 to August 31, 2011.

GRIFFIN, Tom, Lecturer, Department of Recreation & Leisure Studies, May 1, 2011 to August 31, 2011.

NUNKOO, Robin, Lecturer, Department of Recreation & Leisure Studies, May 1, 2011 to August 31, 2011.

SILVA, Veronica, Lecturer, Department of Kinesiology, January 1, 2011 to April 30, 2011.

Graduate Supervision

BURCHELL, Ann, Assistant Professor, Department of Health Studies & Gerontology, January 1, 2011 to April 30, 2014.

MAJOWICZ, Shannon, Associate Professor, Department of Health Studies & Gerontology, January 1, 2011 to December 31, 2014.

WILSON, Elinor, Associate Professor, Department of Health Studies & Gerontology, April 1, 2010 to April 30, 2011.

Graduate Supervision and Research

KRUGER, Judy, Associate Professor, Department of Health Studies & Gerontology, January 1, 2011 to December 31, 2014.

ROBERTS, Melody, Lecturer, Department of Health Studies & Gerontology, January 1, 2011 to December 31, 2014.

Post-doctoral Fellow to Research Appointment

VETTE, Albert, Department of Kinesiology, September 1, 2010 to August 31, 2011.

Susan J. Elliott
Dean, Applied Health Sciences
FOR INFORMATION

A. APPOINTMENTS

Definite-term Reappointment

CALLAGHAN, Gerald, Lecturer, Department of Philosophy, December 31, 2010 to December 31, 2011.

Visiting Appointment

KREIS, Yvonne, Assistant Professor, School of Accounting & Finance, November 1, 2010 to November 30, 2010.

Adjunct Appointments

Instruction

ABBOTT, Clint, Lecturer, Department of Political Science, January 1, 2011 to April 30, 2011.

ADAMS, Russell, Lecturer, Department of Anthropology, January 1, 2011 to April 30, 2011.

BROUWERS, Seth, Lecturer, School of Accounting & Finance, January 1, 2011 to April 30, 2011.

ENNIS, Crystal, Lecturer, Department of Political Science, January 1, 2011 to April 30, 2011.

JIMENEZ, Jennifer, Lecturer, Department of Drama & Speech Communication, October 1, 2010 to November 20, 2010.

LUM, Michelle, Lecturer, School of Accounting & Finance, January 1, 2011 to April 30, 2011.

METCALFE, David, Lecturer, Department of Drama & Speech Communication, October 1, 2010 to November 20, 2010.

NABERT-CHUBB, Rebecca, Lecturer, Department of Political Science, January 1, 2011 to April 30, 2011.

ORLOV, Georgy, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

SPINA, Nanette, Lecturer, Department of Religious Studies, January 1, 2011 to April 30, 2011.

Graduate Supervision

BURT, Sandra, Associate Professor, Department of Political Science, January 1, 2011 to December 31, 2013.

RUSSELL, Delbert, Professor, Department of French Studies, September 1, 2010 to August 31, 2015.

Miscellaneous (research, consultations, etc.)

EKBLAD, Andrew, Assistant Professor, Department of Psychology, November 1, 2010 to August 31, 2011.

OCHOCKA, Joanna, Associate Professor, Department of Sociology & Legal Studies, September 1, 2010 to August 31, 2013.
WESTHUES, Kenneth, Professor, Department of Sociology & Legal Studies, January 1, 2011 to December 31, 2013.

Adjunct Reappointments
Instruction

ANDRES, Greg, Lecturer, Department of Philosophy, January 1, 2011 to April 30, 2011.

ATOCHE, Cristina, Lecturer, Department of Spanish & Latin American Studies, January 1, 2011 to April 30, 2011.

BALLARD, Sarah, Lecturer, Department of Drama & Speech Communication, January 1, 2011 to April 30, 2011.

BANERJEE, Surya, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

BLOEMHOF, Barbara, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

CALDERON-CALLEJAS, Betty, Lecturer, Department of Spanish & Latin American Studies, January 1, 2011 to April 30, 2011.

DAVIDSON, Tina, Lecturer, Women's Studies, January 1, 2011 to April 30, 2011.

DIGNAN, Paul, Lecturer, Department of Fine Arts, January 1, 2011 to April 30, 2011.

DONOVAN, Anne-Marie, Lecturer, Department of Drama & Speech Communication, January 1, 2011 to April 30, 2011.

DUCHARME, Robert, Lecturer, School of Accounting & Finance, January 1, 2011 to April 30, 2011.

EKHITIARI, Hamoon, Lecturer, School of Accounting & Finance, September 1, 2010 to December 31, 2010.

ENTEZARKHEIR, Mahdiyeh, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

FATIMA, Nafeez, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

FLERAS, Augie, Professor, Department of Sociology & Legal Studies, January 1, 2011 to April 30, 2011.

HANNAN, Usman, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

HARTLING, Shannon, Lecturer, Department of Drama & Speech Communication, January 1, 2011 to April 30, 2011.

HARVIE, Jo, Lecturer, Department of Drama & Speech Communication, January 1, 2011 to April 30, 2011.

HEATH, Sally, Lecturer, Department of English Language & Literature, January 1, 2011 to April 30, 2011.

HILL, Heather, Lecturer, Department of Drama & Speech Communication, January 1, 2011 to
April 30, 2011.

**HOOD, Kevin**, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

**JACKES, Mary**, Assistant Professor, Department of Anthropology, January 1, 2011 to April 30, 2011.

**JACOB, Joanna**, Lecturer, Department of Sociology & Legal Studies, January 1, 2011 to April 30, 2011.

**KHIMJEE, Husein**, Assistant Professor, Department of Religious Studies, January 1, 2011 to April 30, 2011.

**KOROVKIN, Tanya**, Professor, Department of Political Science, January 1, 2011 to April 30, 2011.

**KRELLER, Paul**, Lecturer, Department of English Language & Literature, January 1, 2011 to April 30, 2011.

**LAM, Ibis**, Lecturer, Department of Spanish & Latin American Studies, January 1, 2011 to April 30, 2011.

**LEVINSON, Daniel**, Lecturer, Department of Drama & Speech Communication, January 1, 2011 to April 30, 2011.

**LUBELL, David**, Lecturer, Department of Anthropology, January 1, 2011 to April 30, 2011.

**MACDONALD, Robert**, Assistant Professor, Department of Anthropology, January 1, 2011 to April 30, 2011.

**MAITRA, Srabani**, Lecturer, Women’s Studies, January 1, 2011 to April 30, 2011.

**MATE, Nicholas**, Lecturer, Women’s Studies, January 1, 2011 to April 30, 2011.

**MCCAULEY, Eva**, Lecturer, Department of Fine Arts, September 1, 2010 to April 30, 2011.

**MORTON, Janet**, Lecturer, Department of Fine Arts, January 1, 2011 to April 30, 2011.

**NEEDHAM, Brent**, Lecturer, Department of Political Science, January 1, 2011 to April 30, 2011.

**NOLAN, Kathleen**, Lecturer, Department of Political Science, January 1, 2011 to April 30, 2011.

**OLLEY, James**, Lecturer, Department of Fine Arts, January 1, 2011 to April 30, 2011.

**RAHMAN, Fiona**, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

**RAINVILLE, Janelle**, Lecturer, Department of Drama & Speech Communication, January 1, 2011 to April 30, 2011.

**RAYMOND, Mark**, Lecturer, Department of Political Science, January 1, 2011 to April 30, 2011.

**REICHERT, Tetyana**, Lecturer, Department of Germanic & Slavic Studies, January 1, 2011 to April 30, 2011.

**ROTH, Wendy**, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.
RYAN, Robert, Associate Professor, Department of French Studies, January 1, 2011 to April 30, 2011.

SMYTH, Jacqui, Lecturer, Department of English Language & Literature, January 1, 2011 to April 30, 2011.

STUMPF, Andrew, Lecturer, Department of Philosophy, January 1, 2011 to April 30, 2011.

THARMALINGAM, Pirapa, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

TRIMARCHI, Angela, Lecturer, Department of Economics, January 1, 2011 to April 30, 2011.

Graduate Supervision
FLERAS, Augie, Professor, Department of Sociology & Legal Studies, September 1, 2010 to August 31, 2013.

HOWARD, Michael (Distinguished Professor Emeritus), Professor, Department of Economics, September 1, 2010 to June 30, 2011.

KEEPING, Lisa, Associate Professor, Department of Psychology, September 1, 2010 to August 31, 2011.

WILLIAMS, Roberts, Associate Professor, Department of Political Science, January 1, 2011 to December 31, 2015.

Special Appointment
SCOTT, Julianne, Research Associate, Department of Psychology, November 1, 2010 to October 31, 2012.

Graduate Student to Part-time Lecturer Appointments
CUMMING, Sara, Department of Sociology & Legal Studies, January 1, 2011 to April 30, 2011.

EVANS, Natalie, Department of Philosophy, January 1, 2011 to April 30, 2011.

MCEWAN, Michael, Department of Philosophy, January 1, 2011 to April 30, 2011.

MCKINNON, Rhys, Department of Philosophy, January 1, 2011 to April 30, 2011.

NICKERSON WHITE, Sara, Department of Sociology & Legal Studies, January 1, 2011 to April 30, 2011.

Cross Appointments
EWERT, Lowell, Lecturer, Conrad Grebel University College to Department Political Science, September 1, 2010 to August 31, 2015.

FUNK, Nathan, Associate Professor, Conrad Grebel University College to Department of Political Science, September 1, 2010 to August 31, 2015.

KUZNIAR, Alice, Professor, Department of Germanic & Slavic Studies to Department of English Language & Literature, September 1, 2010 to August 31, 2015.

B. ADMINISTRATIVE APPOINTMENTS
BALLARD, Robert, Associate Chair, Undergraduate Studies (Communication, Leadership and Social

BARRICKMAN, Nancy, Associate Chair, Undergraduate Studies, Department of Anthropology, July 1, 2011 to June 30, 2014.

COUTU, Joan, Chair, Department of Fine Arts, July 1, 2011 to June 30, 2015.

FENN, Mavis, Associate Chair, Undergraduate Studies, Department of Religious Studies, September 1, 2010 to August 31, 2011.

SKIDMORE, James, Associate Chair, Graduate Studies, Department of Germanic & Slavic Studies, January 1, 2011 to June 30, 2011.

ZIMMERMAN, Amber, Associate Chair, Undergraduate Studies (Communication, Leadership and Social Innovation), Department of Drama & Speech Communication, January 1, 2011 to December 31, 2011.

Administrative Appointment Date Changes

BALLARD, Robert, Associate Chair, Undergraduate Studies (Communication, Leadership and Social Innovation), Department of Drama & Speech Communication, from September 1, 2010 to August 31, 2011 to September 1, 2010 to December 31, 2010.

GRAFFAM, Gray, Associate Chair, Undergraduate Studies, Department of Anthropology, from May 1, 2010 to June 30, 2012 to May 1, 2010 to June 30, 2011.

C. SABBATICALS

For approval by the Board of Governors

CHEN, Changling, Assistant Professor, School of Accounting & Finance, March 1, 2011 to August 31, 2011, 85% of salary.

FAULKNER, Andrew, Associate Professor, Department of Classical Studies, January 1, 2012 to June 30, 2012, 85% of salary.

HELMES-HAYES, Rick, Associate Professor, Department of Sociology & Legal Studies, January 1, 2012 to December 31, 2012, full salary.

Ken S. Coates
Dean, Faculty of Arts
FOR INFORMATION

A. APPOINTMENTS

Probationary-term Appointment

LEVINE, Peter, Assistant Professor, Department of Electrical & Computer Engineering, February 28, 2011 – June 30, 2014. PhD Columbia University 2009; MEng McGill University 2004; BEng McGill University 2001. Dr. Levine’s research interests include the development of CMOS-integrated biological assays, integrated Microsystems for clinical and environmental monitoring, and, more generally, CMOS microelectronics with novel materials or devices to enable non-traditional applications in the life sciences. His honours include an Intel Foundation PhD Fellowship and a distinction in dissertation.

Probationary-term Reappointment


Definite-term Appointments


MADHURANTHAKAM, Chandra, Lecturer, Department of Chemical Engineering, January 1, 2011 – December 31, 2014. PhD University of Waterloo 2007; MSc Indian Institute of Science, Bangalore, India 2002; BTech Sri Venkateswara University, Andhra Pradesh, India 1999.

Definite-term Appointment Change

SCOTT, Andrea, Assistant Professor, Department of Systems Design Engineering, from September 1, 2011 – August 14, 2014 to January 1, 2012 - August 31, 2015.

Visiting Appointments

BAKENOVA, Zagipa, Scholar, Department of Chemical Engineering, November 15, 2010 – November 14, 2011.

CHANG, Shan, Scholar, Department of Electrical & Computer Engineering, October 1, 2010 – March 31, 2011.

CHEN, Xumei, Scholar, Department of Civil & Environmental Engineering, January 1, 2011 – December 31, 2011.

CHOKPUTTANAWUTTILERD, Nuttawt, Scholar, Department of Chemical Engineering, January 1, 2011 – December 31, 2011.

HASSEL, Anna-Katharina, Researcher, Department of Chemical Engineering, September 13, 2010 – January 5, 2011.


HU, Yu Lin, Scholar, Department of Chemical Engineering, March 1, 2011 – August 31, 2011.

HURME, Susanna, Researcher, Department of Mechanical & Mechatronics Engineering, January 1, 2011 – April 30, 2011.


LI, Bing, Scholar, Department of Chemical Engineering, November 1, 2010 – October 31, 2011.

MUJIBUROHMAN, Muhammad, Scholar, Department of Chemical Engineering, November 1, 2010 – August 31, 2011.


REZAEI, Nima, Scientist, Department of Chemical Engineering, October 1, 2010 – December 31, 2010.

SINGH SURI, Gurpreet, Scholar, Department of Chemical Engineering, February 15, 2011 – July 15, 2011.


THANAVIBULCHAI, Purinut, Scholar, Department of Chemical Engineering, November 8, 2010 – March 31, 2011.

WANG, Jing, Scholar, Department of Chemical Engineering, October 21, 2010 – October 20, 2011.

WANG, Kewei, Scholar, Department of Electrical & Computer Engineering, November 15, 2010 – November 14, 2011.

YAN, Jing, Scholar, Department of Chemical Engineering, October 21, 2010 – October 20, 2011.

ZAMAN, Masuduz, Scholar, Department of Chemical Engineering, December 15, 2010 – December 14, 2011.

ZENG, Shengke, Scholar, Department of Electrical & Computer Engineering, November 1, 2010 – October 31, 2011.

Visiting Reappointments

BAKA, Mohamed, Scholar, Conrad Centre for Business, Entrepreneurship and Technology, May 1, 2010 – April 30, 2011.

DOLD, Peter, Scientist, Department of Electrical & Computer Engineering, May 1, 2010 – October 31, 2011.
HUANG, Yong-De, Scholar, Department of Mechanical & Mechatronics Engineering, October 6, 2010 – October 5, 2011.

TAI, Yongming, Scholar, Department of Management Sciences, March 1, 2011 – August 31, 2011.

Adjunct Appointments

Instruction

ATEFI MONFARED, Kamelia, Lecturer, Department of Civil & Environmental Engineering, January 1, 2011 – April 30, 2011.

DOWLING, Paul, Assistant Professor, School of Architecture, September 1, 2010 – December 31, 2010.

FLEMING, Kevin, Assistant Professor, School of Architecture, November 1, 2010 – December 31, 2010.

GASTMEIER, William, Assistant Professor, School of Architecture, September 1, 2010 – December 31, 2010.


PEARSON, Christine, Assistant Professor, School of Architecture, September 1, 2010 – December 31, 2010.

RAYMOND, Darrell, Associate Professor, Department of Management Sciences, November 15, 2010 – August 31, 2013.

RENNIE, David, Lecturer, Department of Electrical & Computer Engineering, January 1, 2011 – April 30, 2011.

TOPUZI, Dritan, Lecturer, Department of Civil & Environmental Engineering, January 1, 2011 – April 30, 2011.

Graduate Supervision and Research

ALIREZAIE, Javad, Associate Professor, Department of Systems Design Engineering, June 1, 2009 – May 31, 2012.

BENASKEUR, Abder, Professor, Department of Electrical & Computer Engineering, November 1, 2010 – October 31, 2013.

KHALVATI, Farzad, Assistant Professor, Department of Systems Design Engineering, December 1, 2010 – November 30, 2013.

Instruction and Research

DERBENTSEVA, Natalia, Assistant Professor, Department of Management Sciences, October 1, 2010 – August 31, 2013.

NATHAN, Arokia, Professor, Department of Electrical & Computer Engineering, November 1, 2010 – October 31, 2013.

Research

STIMSON, Jesse, Industrial Researcher, Department of Civil & Environmental Engineering.

THUN, Geoffrey, Assistant Professor, School of Architecture, September 1, 2010 – April 30, 2012.

Adjunct Reappointments

Instruction

BLAKE, Clifford, Lecturer, Department of Management Sciences, January 1, 2011 – April 30, 2011.

FADER, Christina, Associate Professor, Department of Management Sciences, January 1, 2011 – April 30, 2011.

GRIFFITHS-FULTON, Karl, Lecturer, Department of Systems Design Engineering, January 1, 2011 – April 30, 2011.

IVKOVIC, Shabnam, Lecturer, Engineering Undergraduate Office, October 1, 2010 – December 31, 2010.

MUSTAFA, Ibrahim, Lecturer, Department of Chemical Engineering, January 1, 2011 – April 30, 2011.


YOUNIS, Rizwan, Lecturer, Department of Civil & Environmental Engineering, January 1, 2011 – April 30, 2011.


Instruction and Research

IRWIN, Peter, Professor, Department of Civil & Environmental Engineering, October 1, 2010 – September 30, 2012.

KUDSIA, Chandra, Professor, Department of Electrical & Computer Engineering, September 1, 2010 – August 31, 2013.

Graduate Supervision

MARCOS, Bernard, Professor, Department of Chemical Engineering, September 1, 2010 – August 31, 2013.

Graduate Supervision and Research

BURNS, Charlie, Professor, Department of Chemical Engineering, April 1, 2010 – March 31, 2012.

GERCHAK, Yigal, Professor, Department of Management Sciences, September 1, 2010 – August 31, 2013.

ZEBARTH, Bernie, Professor, Department of Civil & Environmental Engineering, October 1, 2010 – September 30, 2012.

Research

ARIARATHNAM, Ariam, Professor, Department of Civil & Environmental Engineering, October 2, 2010 – October 1, 2013.
Cross Appointment
CORY, David, Professor, Department of Chemistry, Faculty of Science to Department of Electrical & Computer Engineering, October 15, 2010 – October 14, 2013.

Staff to Faculty Appointment
BALESHTA, James, Lecturer, Department of Mechanical & Mechatronics Engineering, September 1, 2010 – December 31, 2010.

Graduate Student to Part-time Lecturer Appointments
BORLAND, Matt, Lecturer, Department of Systems Design Engineering, January 1, 2011 – April 30, 2011.

WONG, Alexander, Lecturer, Department of Systems Design Engineering, January 1, 2011 – April 30, 2011 and May 1, 2011 – August 31, 2011.

B. ADMINISTRATIVE APPOINTMENTS


SAFAYENI, Frank, Chair, Department of Management Sciences, November 15, 2010 – June 30, 2013.

VECHTOMOVA, Olga, Associate Dean, Engineering Computing, November 1, 2010 – December 31, 2013.

C. RESIGNATION

D. SABBATICALS
For approval by the Board of Governors
BURNS, Catherine, Assistant Professor, Department of Systems Design Engineering, January 1, 2012 – December 31, 2012, at 85% salary.

KHAMESEEL, Behrad, Associate Professor, Department of Mechanical & Mechatronics Engineering, May 1, 2011 – October 31, 2011, at 100% salary.

MITRAN, Patrick, Assistant Professor, Department of Electrical & Computer Engineering, May 1, 2011 – October 31, 2011, at 100% salary.

E. SPECIAL LEAVE
HESJEDAL, Thorsten, Associate Professor, Department of Electrical & Computer Engineering, January 1, 2011 – June 30, 2011.
FOR INFORMATION

A. APPOINTMENTS

Adjunct Appointments

Instruction

BOROVILS, George, Lecturer, School of Environment, Enterprise and Development, January 1, 2011 to April 30, 2011.

FERGUSON, Philip, Lecturer, Faculty of Environment, January 1, 2011 to April 30, 2011.

MARCUS, Joel, Lecturer, School of Environment, Enterprise and Development, January 1, 2011 to April 30, 2011.

PUOPOLO, Paul, Planner-in-Residence, School of Planning, January 1, 2011 to April 30, 2011.

SNIDER, Scott, Associate Professor, School of Planning, January 1, 2011 to April 30, 2011.

Graduate Supervision/Committee Membership

WALL, Geoffrey (Professor Emeritus), Department of Geography and Environmental Management, January 1, 2011 to December 31, 2013.

WOOLFORD, Douglas, Assistant Professor, Department of Geography and Environmental Management, October 1, 2010 to September 30, 2013.

Research

WALL, Geoffrey (Professor Emeritus), Department of Geography and Environmental Management, January 1, 2011 to December 31, 2013.

Cross Appointment

McCarthy, Daniel, Assistant Professor, Department of Environment and Resource Studies to the School of Planning, September 1, 2010 to August 31, 2013.

Graduate Student to Part-time Lecturer Appointment

HOOYKAAS, Amanda, Department of Geography and Environmental Management, January 1, 2011 to April 30, 2011.

B. ADMINISTRATIVE APPOINTMENTS

CRAIK, Neil, Interim Director, School of Environment, Enterprise and Development, January 1, 2011 to June 30, 2011.

GIBSON, Robert, Associate Chair (Graduate Studies), Department of Environment and Resource Studies, July 1, 2011 to June 30, 2014.

ROWLANDS, Ian, Acting Associate Chair (Graduate Studies), Department of Environment and Resource Studies, January 1, 2011 to June 30, 2011.
C. RETIREMENTS

HAIGHT, Murray, Associate Professor, School of Planning, July 1, 2011.

SUFFLING, Roger, Professor, School of Planning, January 1, 2011.

WALL, Geoffrey, Professor, Department of Geography and Environmental Management, January 1, 2011.

M. Seasons
Dean
FOR INFORMATION

A. APPOINTMENTS
Visiting Appointments

CHEN, Tao, Scholar, David R. Cheriton School of Computer Science, October 1, 2010 – March 31, 2011.

FEKE, Pablo Gabriel, Researcher, Dept. of Combinatorics & Optimization, May 1, 2011 – August 31, 2011.

HERTMAN, Freek, Researcher, David R. Cheriton School of Computer Science, October 15, 2010 – March 31, 2011.

KANG, Liying, Researcher, Dept. of Combinatorics & Optimization, March 1, 2011 – August 28, 2011.

RAHMAN, Ziaur, Research Associate, David R. Cheriton School of Computer Science, October 1, 2010 – September 30, 2011.

SAIA, Jared, Associate Professor, David R. Cheriton School of Computer Science, November 1, 2010 – October 31, 2012.

TANG, Yang, Research Associate, David R. Cheriton School of Computer Science, November 1, 2010 – October 31, 2011.

ZHANG, Xianglilan, Scholar, David R. Cheriton School of Computer Science, October 1, 2010 – September 30, 2012.


Adjunct Appointments
Instruction

LIMAM, Noura, Lecturer, David R. Cheriton School of Computer Science, January 1, 2011 – April 30, 2011.


Adjunct Reappointments
Instruction

ARNASON, Mark, Lecturer, Office of the Dean, January 1, 2011 – April 30, 2011.


BELTAOS, Andrew, Lecturer, Office of the Dean, January 1, 2011 – April 30, 2011.

CELMINS, Uldis, Lecturer, Dept. of Combinatorics & Optimization, January 1, 2011 – April 30, 2011.

HINEK, Jason, Lecturer, David R. Cheriton School of Computer Science, January 1, 2011 – April 30, 2011.


KOU, Tian, Lecturer, David R. Cheriton School of Computer Science, January 1, 2011 – April 30, 2011.

LOO, Clinton, Lecturer, Dept. of Pure Mathematics, January 1, 2011 – April 30, 2011.

NAEEM, Nomair, Lecturer, David R. Cheriton School of Computer Science, January 1, 2011 – April 30, 2011.

PEL, Pei, Lecturer, Dept. of Pure Mathematics, January 1, 2011 – April 30, 2011.

PETRICK, Mark, Lecturer, David R. Cheriton School of Computer Science, January 1, 2011 – April 30, 2011.


RANDONO, Andrew, Lecturer, Dept. of Applied Mathematics, January 1, 2011 – April 30, 2011.

ROH, Patrick, Lecturer, Dept. of Combinatorics & Optimization, January 1, 2011 – April 30, 2011.


WESSLEN, Maria, Lecturer, Office of the Dean, January 1, 2011 – April 30, 2011.

WOLCZUK, Dan, Lecturer, Dept. of Pure Mathematics, January 1, 2011 – April 30, 2011.

Research

COWAN, Donald, Professor, David R. Cheriton School of Computer Science, January 1, 2011 – December 31, 2014.

PALDUS, Josef, Professor, Dept. of Applied Mathematics, September 1, 2010 – August 31, 2012.

Cross Appointment

FREELAND, Keith, Lecturer, Office of the Dean to the Dept. of Statistics & Actuarial Science, September 1, 2010 – August 31, 2013

Graduate Student to Part-time Lecturer Appointments

BEKOLAY, Trevor, David R. Cheriton School of Computer Science, January 1, 2011 – April 30, 2011.

CHAN, Aaron, Dept. of Combinatorics & Optimization, January 1, 2011 – April 30, 2011.

WHISSELL, John, David R. Cheriton School of Computer Science, January 1, 2011 – April 30, 2011.

Graduate Student to Part-time Lecturer Reappointments

ANDERSON, Terry, David R. Cheriton School of Computer Science, January 1, 2011 – April 30,
2011.


**B. ADMINISTRATIVE APPOINTMENTS**

**MENEZES, Alfred**, Chair, Dept. of Combinatorics & Optimization, September 1, 2011 – August 31, 2015.


**ADMINISTRATIVE REAPPOINTMENT**

**KONEMANN, Jochen**, Acting Chair, Dept. of Combinatorics & Optimization, January 1, 2011 – August 31, 2011.

**C. SABBATICALS**

*Approved by the Board of Governors*

**DAVIDSON, Kenneth**, Professor, Dept. of Pure Mathematics, January 1, 2011 - June 30, 2011, with 100% salary.

*To be approved by the Board of Governors*


Ian P. Goulden
Dean
A. APPOINTMENTS

Definite-term Appointments

GRINDROD, Kelly, Assistant Professor, School of Pharmacy, January 1, 2011 to June 30, 2014. [B.Sc., University of Alberta (2003); D.Pharm., University of British Columbia (2007); M.Sc. (Pharmacy), University of British Columbia (2009).] Dr. Grindrod is a pharmacist who examines pharmacist-driven interventions to improve patient care in primary care settings, with a particular interest in community pharmacy. Having her join our team will broaden our practice research and offers potential for great impact on the future role of the pharmacist in primary care. Her undergraduate studies were followed by completion of a hospital residency at the London Health Sciences Centre and a Doctor of Pharmacy degree. Her post-doctoral fellowship was at the University of British Columbia’s Faculty of Pharmaceutical Sciences where she simultaneously completed a Master of Science degree. Dr. Grindrod is already a recognized speaker at national meetings and has established herself as a sought after collaborator.

WANG, Xiaosong, Associate Professor, Department of Chemistry, January 1, 2011 to June 30, 2014. [B.Sc., Zhejian University (1990); M.Sc., Zhejiang University (1994); Ph.D., East China University of Science and Technology (1998).] Dr. Wang’s doctoral thesis work in the area of living free-radical polymerization led to a significant breakthrough in the use of transition and rare-earth metals to control free-radical polymerization of synthetic rubbers. Following receipt of his Ph.D., Dr. Wang served as a Postdoctoral Fellow with Professor Steven Armes at the University of Sussex (1998-2000), after which he joined the research group of Professor Ian Manners at the University of Toronto, as a Research Associate (2001-2006). He returned to the UK in 2006 to take up a prestigious five-year RCUK Fellowship position as a Lecturer at the University of Leeds. Dr. Wang is the author or co-author of 33 refereed research papers since 1999, including publications in Nature, Science, the Journal of the American Chemical Society, and Macromolecules. He plans to continue and extend his already highly successful supramolecular block copolymer synthetic strategies for the synthesis (and characterization) of nanoscale metal-coordination polymers during his appointment in the Department of Chemistry, and he will be contributing to the teaching and research activities in the Nanotechnology Engineering program and WIN.

Adjunct Appointments

Graduate Supervision

BLYTH, Alexander, Professor, Department of Earth & Environmental Sciences, October 1, 2010 to September 30, 2013.

Graduate Supervision and Research

COOKE, Steven J., Associate Professor, Department of Biology, November 1, 2010 to October 31, 2013.

CUNJAK, Richard A., Professor, Department of Biology, November 1, 2010 to October 31, 2013.

RANDALL, Robert G., Professor, Department of Biology, November 1, 2010 to October 31, 2013.

Graduate Supervision, Research and Instruction

JIANG, Runqing, Associate Professor, Department of Physics & Astronomy, October 1, 2010 to September 30, 2013.
OSEI, Ernest, Professor, Department of Physics & Astronomy, October 1, 2010 to September 30, 2013.

Undergraduate Instruction
DALE, John, Lecturer, Department of Biology, January 1, 2011 to April 30, 2011.

DAMIAN, Festo R., Lecturer, School of Pharmacy, January 1, 2011 to April 30, 2011 and May 1, 2011 to August 31, 2011.

EL-BAYOUMI, Usama (Sam), Assistant Professor, School of Pharmacy, November 1, 2010 to December 31, 2011.

HUTCHINSON, Verna, Assistant Professor, School of Pharmacy, November 1, 2010 to December 31, 2011.

MAIN, Andrea, Assistant Professor, School of Pharmacy, November 19, 2010 to December 31, 2011.

OFFMAN, Elliot, Lecturer, School of Pharmacy, January 1, 2011 to August 31, 2011.

SCHILL, Cathy, Assistant Professor, School of Pharmacy, November 1, 2010 to December 31, 2011.

SHAW, Kelly, Lecturer, School of Pharmacy, January 1, 2011 to August 31, 2011.

VOSPER, Heather, Lecturer, School of Pharmacy, January 1, 2011 to April 30, 2011.

Adjunct Reappointments
Graduate Supervision and Research
MacLATCHY, Deborah L., Professor, Department of Biology, December 1, 2010 to November 30, 2013.

PAWLUCZYK, Romuald, Professor, Department of Chemistry, September 1, 2010 to August 31, 2013.

TROPE, Graham E., Professor, School of Optometry, October 1, 2010 to September 30, 2013.

YADA, Rickey, Professor, Department of Chemistry, August 1, 2010 to July 31, 2013.

Undergraduate Instruction
RICHARD, Cynthia L., Assistant Professor, School of Pharmacy, January 1, 2011 to December 31, 2011

Other
BRUBACHER, Lewis J., Associate Professor, Department of Chemistry, September 1, 2010 to August 31, 2013.

Cross Reappointments
GREENBERG, Bruce, Professor, Department of Biology cross appointed to Department of Chemistry, September 1, 2010 to August 31, 2013.

JONES, Lyndon, Professor, School of Optometry cross appointed to Department of Chemistry,
September 1, 2010 to August 31, 2013.

**JOSEPH, Jamie**, Assistant Professor, School of Pharmacy cross appointed to Department of Chemistry, September 1, 2010 to August 31, 2013.

**LU, Qing-Bin**, Associate Professor, Department of Physics & Astronomy cross appointed to Department of Chemistry, September 1, 2010 to August 31, 2013.

**MARTIN, James**, Associate Professor, Department of Physics & Astronomy cross appointed to Department of Chemistry, September 1, 2010 to August 31, 2013.

**QUADRILATERO, Joe**, Assistant Professor, Department of Kinesiology cross appointed to Department of Biology, December 1, 2010 to November 30, 2013.

**TUPLING, A. Russell**, Associate Professor, Department of Kinesiology cross appointed to Department of Biology, December 1, 2010 to November 30, 2013.

**WETTIG, Shawn**, Assistant Professor, School of Pharmacy cross appointed to Department of Chemistry, September 1, 2010 to August 31, 2013.

**Staff to Faculty Reappointments**

**ASSOUD, Abdeljalil**, Lecturer, Department of Chemistry, January 1, 2011 to April 30, 2011.

**SMITH, Richard W.**, Lecturer, Department of Chemistry, January 1, 2011 to April 30, 2011.

**Post-doctoral Fellow to Part-time Lecturer Appointment**

**NYKAMP, Julie A.**, Lecturer, Department of Biology, January 1, 2011 to April 30, 2011.

**Research Associate to Part-time Lecturer Reappointment**

**JASINSKI, Paul**, Lecturer, Department of Earth & Environmental Sciences, September 1, 2010 to December 31, 2010.

**B. ADMINISTRATIVE APPOINTMENT**

**FORREST, Jamie**, Associate Director, Research and Graduate Studies, School of Pharmacy, September 1, 2010 to August 31, 2011.

**C. SABBATICALS**

*For approval by the Board of Governors*

**CHONG, J. Michael**, Professor, Department of Chemistry, September 1, 2011 to August 31, 2012, 100% salary arrangement.

**DIXON, Brian**, Professor, Department of Biology, July 1, 2011 to December 31, 2011, 100% salary arrangement.

T.B. McMahon
Dean of Science
University of Waterloo  
SENATE  
January 17, 2011  

FOR INFORMATION  

Council of Ontario Universities  
Report on Academic Colleagues’ Meetings – Toronto  
December 9-10, 2010 - Paul D. Guild  

The topics below were among those considered at the COU meeting of Academic Colleagues at the December meeting in Toronto.  

A. “Teaching-Stream Faculty: Can it work in Ontario?”  
Academic Colleagues’ Dinner with Presentation by Dr. Susan Vajoczki (Director, Centre for Leadership in Learning, McMaster) – December 9, 2010  

A proposed investigation is sponsored by the Higher Education Quality Council of Ontario (HEQCO) and is seen by some ACs as motivated by Ontario’s goal of achieving a 70% participation rate in post-secondary education (PSE), combined with a desire to curb provincial spending on higher education and research. Their aim is to evaluate whether or how “employment of teaching-stream faculty (TSF) could address the pressures of increased enrolment and expanded research expectations facing Ontario universities, with particular attention to the effects on teaching and learning quality”.  

The presentation sparked lively discussion, including these points raised either at the dinner or in the meeting next day:  

• If research informs teaching, how might TSF stay current with the latest advances in their disciplines?  
• Might widespread use of TSF lead to a two-tier professorial structure, with TSF being considered more like “second class” contributors?  
• What (if any) would be the distinction between TSF and continuing or sessional lecturers in our universities? What distinction would there be between TSF and instructors in our community colleges?  
• Will TSF expect to be represented under the same faculty agreements as those of the “regular” 40-40-20 faculty members or will they want their own separate agreements?  
• To what extent can greater teaching emphasis be accommodated under “regular” appointments by shifting the ratio of effort from 40-40-20 to say 60-20-20, just as a greater research emphasis is occasionally shifted to a ratio such as 20-60-20?  
• Would performance reviews of TSF be conducted in a manner similar to collegial governance of “regular” appointments or will a “management-driven” approach be required?  

It was noted that those conducting the study appear to position themselves more as “issue advocates” rather than as detached investigators. It is hoped that their research outputs will be subjected to the normal peer review process before being acted upon by policy makers.  

Link: http://www.secretariat.uwaterloo.ca/AC-Dec1AB.pdf  

B. Academic Colleagues’ Meeting – December 10, 2010 at COU  

As the AC meeting resumed and was joined by Peter Gooch (Senior Director, Policy and Analysis, COU), there were several verbal and/or written updates, including:  

B 1. COU Response to Framework for Aboriginal Learners  

COU is preparing a consolidated feedback document to share with MTCU. In it, COU members indicate overall support for the proposed MTCU Framework and its general direction. In addition, areas of concern are noted and a summary of these is provided at the link below.  

Link: http://www.secretariat.uwaterloo.ca/AC-Dec2.pdf
B 2. Teaching and Learning Task Force Mandate, Deliverables and Next Steps
This initiative, focusing on transformational practices, was approved by OCAV in December and a document setting down nine areas of expectations, roles and next steps will be issued shortly.

B 3. Differentiation Among Ontario Universities
Further to the last AC report, a COU letter and Media Release were issued in November highlighting the viewpoint that Ontario Universities welcome debate on enhancing differentiation.
Link: http://www.secretariat.uwaterloo.ca/AC-Dec3AB.pdf

B 4. Online Learning Institute
It was made clear to the ACs that Contact North aspires to a leadership role in any future Ontario Online Institute. Less clear was that such a leadership role would best serve Ontarians in general and the interests of Ontario universities in particular. At the very least, the Contact North initiative was said to be out-of-step with the COU position on this matter.

A revised version of the AC position paper was shared with the AC membership and should be ready for broader distribution soon. It may over-rely upon comparisons between mediated learning and the “sage-on-the-stage” as the typical alternative. The AC position may benefit from additional input instructors with first-hand experience with online learning, a perspective that the UW AC will endeavor to reinforce during future deliberations.
Links: http://www.contactnorth.ca/en/

B 5. Going Greener Report
As part of an annual COU report, a letter and Media Release were issued in November 3, 2010 outlining four key areas surveyed this year: building a green culture, reducing environmental impacts, teaching and learning, and barriers and best practices.
Link: http://www.secretariat.uwaterloo.ca/AC-Dec4.pdf
FOR APPROVAL

Board of Governors/Senate Council Appointments

Motion:

That Senate approve the following appointments:

- **Board of Governors**: Dave Smith, replacing Ian Kasper, as undergraduate student senator representative, term to April 30, 2011.

- **Graduate & Research Council**: Feisal Rahman, replacing Rachel Campbell, as the engineering graduate student representative, term to April 30, 2011.

- **Undergraduate Council**: Paul Baribeau, replacing Jennifer Harvey, as the environment undergraduate student representative, and Jue Hou, replacing Piraveena Tharmalingam, as the mathematics undergraduate student representative, terms to April 30, 2011.
Communications & Public Affairs
University of Waterloo Daily Bulletin Research Summary

Background

In summer and fall 2010 a survey was conducted to gain an understanding of what readers thought about uWaterloo's Daily Bulletin, an online newsletter covering campus activities and events. Consisting of 14 questions, the survey identified the makeup of current readers and explored their perceptions of the information presented in the Daily Bulletin. A total of 575 faculty, staff, students and others completed the survey. Respondents were also asked to contribute comments. Two-thirds of respondents submitted comments, some in detail, providing their view of the Daily Bulletin as it is now.

Key Findings

Overall, users find the Daily Bulletin a useful source of information contributing to their work and life on campus. Respondents were overwhelmingly positive about the readable style of the content, felt the content was accurate and balanced, and that their faculty or department received an adequate share of attention. Users also found the events section, called ‘When and where,’ useful, as well as the ‘One click away’ list of web links.

Analysis of users’ comments revealed some important themes. Navigation to archived Bulletin stories was identified as a key concern. Another issue was the difficulty of identifying or sharing individual stories in the Daily Bulletin given its longer, narrative format. Survey respondents offered suggestions about ways to enhance format and presentation. A further concern was the general lack of awareness of the Daily Bulletin, with students in particular expressing regret that they had become aware only in their senior years.

Despite these issues, the Daily Bulletin is seen as having an important role in community building. It’s regarded as a valuable tool for connecting groups within a large and growing university community. Two important audiences, alumni and retirees, use the Daily Bulletin as a way of enhancing their connection with their school and looking for ways to contribute. Co-op students also repeatedly expressed the sense of connection felt by reading the Daily Bulletin on work terms or out of the country — a way of being part of Waterloo when not there physically.

Next Steps

The Daily Bulletin serves a number of unique and distinct audiences and continues to play an important role within the university.

The survey of current users identified enhancements to the Daily Bulletin that can be addressed immediately by making changes to the design as part of the web redesign process.

The second outcome of the survey was to identify opportunities to rethink the Daily Bulletin, expand its reach across the campus, and review its role in meeting the needs of a broader base of stakeholders. This next step of building on and enhancing the value of the Daily Bulletin will be reviewed in the context of a communications strategy for the university to be developed in 2011.

Meg Beckel,
Vice-President, External Relations
Senate Executive Committee met on December 6, 2010 and agreed to forward the following items to Senate.

FOR INFORMATION

1. REPORT OF THE GRADUATE & RESEARCH COUNCIL
   Acting on the delegated authority of Senate [November 15 meeting], the Senate Executive Committee approved three new programs: Master in Development Practice; Diploma in Social Innovation; Master of Digital Innovation.

   Given the importance of these academic programs, the committee agreed that Senate should receive the portfolio considered by the committee along with the meeting minutes [Attachment 1].

FOR DISCUSSION

2. REVIEW OF THE NOVEMBER 15, 2010 MEETING
   The committee agreed to bring the matter to Senate for discussion and to distribute the documentation made available to the committee at its December 6, 2010 meeting along with the meeting minutes [Attachment 1].

Feridun Hamdullahpur
President
1. REPORT OF THE GRADUATE & RESEARCH COUNCIL

As background, from the associate provost, graduate studies, OCGS and the Quality Control Council have placed an administrative deadline of December 31 for submission of new graduate programs. And from the provost, that Senate has delegated authority to the Senate Executive Committee to consider and render a decision on these programs.

a. Master of Development Practice [revised pages A34 and A35 at members’ places]. Having heard the associate provost, graduate studies provide background, context and a brief review of content for the Master of Development Practice program, senators heard a motion to approve the establishment of this program to be offered by the Faculty of Environment (School of Environment, Enterprise and Development) as described below and in the report.

Horton and Brown.

In discussion, senators heard: the program was approved by SEED in October and by the Environment Faculty Council in November; tuition fees (not addressed in the document as fees are approved by the board) will be “slightly higher” because this is a professional program; the summer term abroad (now at a half credit) may become a milestone; intake figures are derived from the admission statistics of the twelve programs in the network offering the MDP in 2010-11 which reflect significant demand for this type of program; as this is a professional program, student support is limited though some funding is available from the McConnell Foundation and there are no apparent barriers to TA/RA opportunities for students in environment and other faculties; the two new hires are part of the complement of new positions committed to environment.

The motion carried.

b. Diploma in Social Innovation. Having heard the associate provost, graduate studies provide background, context and a brief review of content for the Diploma in Social Innovation, senators heard a motion to approve the establishment of this graduate diploma to be offered by the Faculty of Environment (SEED) as described below and in the report.

Horton and Nasir.

In discussion, senators heard: courses taken to meet diploma requirements cannot be repurposed for a master’s degree and students interested in pursuing a master’s should be so counselled; since September 1, 2010 Frances Westley (social innovation) is a full-time member in environment and a reason why this program is located in environment.

The motion carried.
c. **Master of Digital Innovation.** Having heard the associate provost, graduate studies provide background, context and a brief review of content for the Master of Digital Innovation, senators heard a motion to approve the establishment of this program to be offered by the Faculty of Arts (Department of Anthropology) at the Stratford Campus as described below and in the report.

Horton and Nasir.

In discussion, senators heard: anthropology’s growing direction in business/design/marketing anthropology provides a generic fit for the program; from the provost, that he did not view as problematic, nor did he believe OCGS would, that there is no regular faculty from anthropology participating in the program; this program provides graduate opportunity for anthropology following the unwinding of the joint program with Guelph; the introduction of this program is resourced so as not to impact other programs; the observation that there are too many required courses over a three-term program and agreement from the associate provost to take under advisement, to discuss with arts and the possibility that some listed courses (e.g., DI 600 – Bootcamp, DI 611 and 621 – projects) should become milestones; the expectation that there will be a media lab/digital room in the building designed for the Stratford Campus.

The motion carried.

The associate provost advised that she expected that curriculum for all three programs will come to Senate Graduate & Research Council during the winter term and subsequently to Senate.

2. **REVIEW OF THE NOVEMBER 15, 2010 SENATE MEETING**

The provost commented that, notwithstanding the length of the meeting, he found discussion/debate lively and dynamic and that any adjustments to the practices of Senate should be to facilitate Senate’s becoming even more engaged and responsive. He noted that concerns were directed to him concerning the length of the meeting, that the motion introduced under “Other Business” may have been considered/moved absent quorum, and that documentation was available (adduced later) re: endowments that could have informed discussion.

In discussion, senators heard: Senate Executive Committee has to be more realistic about the length of agenda/timing of items and that the chair/secretary need to hold Senate to the [suggested] times; the agenda should be reordered so that motions are front-ended; motions need to be in writing and introduced “a number of business days” before Senate convenes; consistent with its mandate to set the Senate agenda, motions introduced after SEC has set the agenda should be electronically distributed to SEC before distribution to senators; a suggestion that it would be helpful to senators if motions were projected and amendments done in real time on the screen; from the president of FAUW, that senators used/had at their disposal the necessary rules of order to allow the motion to proceed or not, and a suggestion that Senate commission a study of its operation.

It was agreed to refer this matter to Senate for discussion.

3. **REPORT OF THE SENATE EXECUTIVE COMMITTEE TO SENATE**

The provost offered that the documentation for this meeting as well as the minutes would be incorporated in the report.

LC: tad
December 6, 2010

Lois Claxton
Secretary of the University
Senate Graduate & Research Council met on November 15, 2010 and agreed to forward the following items to Senate. Further details are available at: www.adm.uwaterloo.ca/infosecCommittees/senate/sgrc.htm

FOR APPROVAL

NEW PROGRAMS

Master’s in Development Practice

1. Motion: To approve the establishment of the Master’s in Development Practice (MDP) to be offered by the Faculty of Environment (School of Environment, Enterprise and Development (SEED)), as described below and in Attachment 1.

Rationale: This professional degree will add to the existing graduate program offerings in both SEED and the faculty; in particular, it will complement the existing Master’s of Applied Environmental Studies in Local Economic Development. The MDP will also complement the existing undergraduate degree in international development offered by SEED. It is in line with the Faculty of Environment’s “Smart, Green, Solutions: A Strategic Plan for the Faculty of Environment 2007-2012” (congruent with the university’s Sixth Decade Plan), which includes a commitment to professional training and research in the area of international development.

The goal of the MDP program is to produce graduates with a set of practical skills and functional forms of knowledge in the interrelated areas of management, social science, physical science and health as they relate to the practice of international development. Graduates with this knowledge and expertise will constitute the foundation of a new kind of development practitioner who is a social innovator, helping to shape a just, humane and ecologically sustainable world. It will provide an excellent setting for mid-career development professionals wishing to retrain themselves or to augment their current knowledge and skills for the complex challenges of the 21st Century, and for younger scholars eager to combine generalist management strengths with issue and area specific training and experience.

In August 2009, the Faculty of Environment, through SEED, was awarded a MacArthur Foundation grant to assist in the development of the MDP at the University of Waterloo as the first Canadian partner in a network of 15 universities worldwide (the network now numbers 22 and includes the University of Winnipeg). The proposed MDP represents the interests and capabilities of the Faculty of Environment, and also recognises links to the interests and capabilities of all the members in the global MDP network.

Graduate Diploma in Social Innovation

2. Motion: To approve the establishment of the Graduate Diploma in Social Innovation to be offered by the Faculty of Environment (School of Environment, Enterprise and Development), as described below and in Attachment 2.

Rationale: Design and delivery of this graduate diploma is led by faculty associated with the Social Innovation Generation national project (www.sig.uwaterloo.ca). Students in the diploma program will be executive level professionals from the public, private and social sectors.

The main objective of this program is to educate students on the concepts and theories that frame established and emerging ideas related to social innovation. It also seeks to enhance students’ understanding of current complex problem domains in society and their ability to apply new knowledge in order to transform these problem domains and build social resilience.
Skill development for students will focus on collaboration within diverse teams, mapping problem domains within systems, and identifying, developing and implementing relevant action research projects. Students will share the unique experience of working together across sectors on common challenges, and the opportunity to research and recommend action to intervene in systemic social problems that are of key concern. This learning and experience will greatly enhance students’ capacity to lead within their own sectors and to impact the issues upon which their professional roles focus.

These objectives will be achieved through a 12 month part-time intensive executive education program to include four face-to-face on-campus modules as well as a series of virtual education and training/coaching modules. Students will learn from faculty, professional experts and real world experiences, offering lectures, presentations, and field work opportunities. They will demonstrate their knowledge through written assignments and skill development through active participation in issue-based teams, culminating in a team research project and associated presentations and final reports.

Master of Digital Innovation

3. **Motion:** To approve the establishment of the Master of Digital Innovation (MDI) to be offered by the Faculty of Arts (Department of Anthropology) at the Stratford Campus, as described below and in Attachment 3.

**Rationale:** The broad objective of this program, which will be offered at the Stratford Campus, is to provide a superior professional education for students seeking strategic careers in the digital media industry. Specifically, the program aims to equip future leaders, strategic thinkers, and team managers with the skills they need to innovate and thrive in this fast-evolving field.

While the program will provide students with an appreciation for and experience with the basic technical skills of digital production and implementation, this is not its primary focus. Rather, the MDI program will focus on developing broader capabilities in the areas of team, project, and product management and leadership in the digital media context.

Working in teams throughout the program, and developing core projects in close consultation with both faculty and industry partners, students in the MDI program will graduate with an adaptable, transferrable, and highly marketable set of skills. Training in both the theory and practice of team building, business modelling, marketing strategy, critical/cultural analysis, and design thinking will position MDI graduates to be able navigators in the complex and fast-moving digital media industry.

The key aims of the program are:
- to participate in Ontario’s “Innovation Agenda” by preparing future knowledge strategists in the priority area of digital media;
- to introduce a needed alternative to Ontario’s existing graduate offerings in this area; and
- to build on the University of Waterloo’s (in particular Waterloo’s Stratford initiative’s) strong industry, public sector, and government partnerships by providing students with highly collaborative, connected and experiential training that will transition them well into their careers.

George Dixon  
Vice-President, University Research  

Sue Horton  
Associate Provost, Graduate Studies
University of Waterloo

Brief for the Standard Appraisal of the Master of Development Practice in International Development

Submitted to the Ontario Council on Graduate Studies 2010

VOLUME I: The Program
THE PROGRAM

1. **INTRODUCTION** ........................................................................................................................................... 3
1.1. Brief listing of programs ................................................................................................................................. 3
1.2. Objectives of the programs ............................................................................................................................. 3
1.3. Method used for the self-study as well as the preparation of the brief, including faculty and student input and involvement ......................................................................................................................... 5
1.4. Fields in the programs (indicate recent changes if any) ....................................................................................... 5
1.5. Review concerns expressed in previous appraisal and actions taken ................................................................. 8
1.6. Special matters and innovative features ............................................................................................................. 8

2. **THE FACULTY** ................................................................................................................................................... 9
2.1. List of faculty by field ............................................................................................................................................ 9
2.2. External operating research funding .................................................................................................................. 10
2.3. Graduate supervision ........................................................................................................................................ 12
2.4. Current teaching assignments .......................................................................................................................... 13
2.5. Commitment of faculty members from other graduate programs and/or from other institutions ........................................................................................................................................................................... 14

3. **PHYSICAL AND FINANCIAL RESOURCES** ........................................................................................................ 16
3.1. Library resources ................................................................................................................................................ 16
3.2. Laboratory facilities .......................................................................................................................................... 20
3.3. Computer facilities .......................................................................................................................................... 20
3.4. Space ............................................................................................................................................................... 20
3.5. Financial support of graduate students ............................................................................................................. 21

4. **PROGRAM REGULATIONS AND COURSES** ...................................................................................................... 21
4.1. The intellectual development and the educational experience of the student ...................................................... 21
4.2. Program regulations .......................................................................................................................................... 22
4.3. Part-time studies ............................................................................................................................................. 23
4.4. Total graduate courses listed and level ............................................................................................................... 24
4.5. Collateral and supporting departments ........................................................................................................... 29

5. **OUTCOMES** ..................................................................................................................................................... 33
5.1. Enrolment and graduations ............................................................................................................................ 33
5.2. Employment .................................................................................................................................................. 33
5.3. Publications .................................................................................................................................................. 33
5.4. Projected graduate intake and enrolments ....................................................................................................... 33
1. INTRODUCTION

1.1. Brief listing of programs

This is an application for a Standard Appraisal of a new Master's program in the School of Environment Enterprise and Development (SEED) in the Faculty of Environment (ENV) at the University of Waterloo (UW) that will lead to a Master of Development Practice (MDP) degree in International Development. This professional degree will add to the existing graduate program offerings in both SEED and the Faculty; in particular, it will complement the existing Master of Applied Environmental Studies (MAES) in Local Economic Development (LED). The MDP will also complement the existing undergraduate degree in International Development (INDEV) offered by SEED.

More detailed information on SEED and the Faculty of Environment are available at the following:

- http://www.environment.uwaterloo.ca/seed/index.html
- http://environment.uwaterloo.ca/

The MDP program will also have close relationships with several centres, groups and units at UW, including the following:

- Balsillie School of International Affairs http://www.balsillieschool.ca/
- Centre for Ecosystem Resilience and Adaptation http://www.era.uwaterloo.ca/
- Faculty of Arts http://arts.uwaterloo.ca/arts/
- Faculty of Applied Health Sciences http://www.ahs.uwaterloo.ca
- Faculty of Engineering http://www.engineering.uwaterloo.ca/
- The Water Institute http://water.uwaterloo.ca/index.aspx
- Water Policy and Governance Group http://www.wpgg.ca/
- Waterloo Institute for Sustainable Energy http://www.wise.uwaterloo.ca/

1.2. Objectives of the program

Master's program: The specific goal of our Program is to produce graduates with a set of practical skills and functional forms of knowledge in the interrelated areas of management, social science, physical science, and health as they relate to the practice of international development. It is our belief that graduates with this
knowledge and expertise will constitute the foundation of a new kind of development practitioner who is a social innovator, helping to shape a just, humane and ecologically sustainable world.

The School of Environment, Enterprise and Development (SEED) in the Faculty of Environment at the University of Waterloo offers an ideal place to undertake such a program. The Faculty of Environment seeks to build a better, sustainable and just world. Toward this end, the Faculty has developed ‘Smart, Green, Solutions: A Strategic Plan for the Faculty of Environment 2007-2012’, which is in line with the University of Waterloo’s (UW’s) 6th Decade Strategic Plan. Included here, among other things, is a commitment to professional training and research in the area of international development. In 2008, the Faculty of Environment in cooperation with UW’s St Paul’s University College launched an undergraduate program in International Development – INDEV for short. This inter-faculty/inter-disciplinary program combines critical thinking, basic business, economic and environmental management skills with hands-on practice, including an eight-month work placement in a developing country. Our aim is to graduate global citizens capable of engaging directly and meaningfully with the most pressing issues, needs and problems of the 21st Century world. Our graduates’ skill-set enables them to work wherever they wish. From the high-consumption global North, to the low-consumption global South, finding solutions to the pathologies of both over- and under-development requires people that are able to combine multiple forms of information into appropriate, sustainable and applicable forms of action.

In January 2009, the Faculty of Environment (ENV) responded to a call from the MacArthur Foundation for applications from Universities worldwide wishing for institutional and financial support to establish a Master of Development Practice (MDP). At the time, we at ENV found it remarkable how closely the International Commission on Education for Sustainable Development Practice’s (ICESDP) proposed MDP program reflected the spirit and content not only of our current INDEV undergraduate program, but of ENV programs in general. We agree that there are serious practical and multi-disciplinary gaps in existing International Development Studies (IDS) programs that do not match the needs and aspirations of young people today. To fill this gap, our proposed MDP program combines courses from several faculties and departments (for example, Economics, Environment, Planning, Health and Governance), and combines theory and practice with hands-on field experience.

In August 2009, ENV, through SEED, was awarded a MacArthur Foundation grant to assist in the development of the MDP at the University of Waterloo. At the time, we were the only Canadian partner in a network of 15 Universities worldwide. In spring 2010, we were joined by the University of Winnipeg (in partnership with University of Ottawa) in a global network that now numbers 22. The proposed MDP presented here represents the interests and capabilities of ENV, and also recognises links to the interests and capabilities of all the members in the global MDP network.

The Master of Development Practice (MDP) is a natural extension of the ENV, INDEV and SEED shared vision, mission and programs. It will provide an excellent setting for mid-career development professionals wishing to retrain themselves or to augment their current knowledge and skills for the complex challenges of the 21st
Century, and for younger scholars eager to combine generalist management strengths with issue and area specific training and experience.

1.3. Method used for the self-study as well as the preparation of the brief, including faculty and student input and involvement

The international survey findings of the International Commission on Education for Sustainable Development Practice (ICESDP), which was commissioned by the MacArthur Foundation in January 2007, demonstrated the basic need for launching the MDP at Waterloo. The final report (http://mdp.ei.columbia.edu/sitefiles/file/Final_Report_2008.pdf) summarised the key finding of the survey as follows:

* A major obstacle to achieving the Millennium Development Goals (MDGs) is the lack of a cadre of generalist professionals trained across fields of public health, agronomy, engineering, economics and environmental science that can recognize these interrelated challenges and know how to address them, drawing from specialist expertise as needed.

On the basis of this report, the MacArthur Foundation committed USD 16 million to the development of a global network of MDP programs. The goal of the network is to train the next generation of development practitioners, giving them the right combination of generalist knowledge and expert insight into the complex challenges that characterise the global development landscape of the 21st Century.

In response to the initial call for proposals for MacArthur support, SEED consulted widely across units within the Faculty and across Faculties at the University of Waterloo. In addition, interviews and discussions were held with officials from within the international development community (including the Canadian International Development Agency (CIDA), a range of non-governmental organisations (NGOs), members of the executive committees of the Canadian Association for the Study of International Development (CASID) and the Canadian Consortium of University Programmes in International Development Studies (CCUPIDS), and members at universities and development policy think tanks external to the North American academic environment.

The first call for proposals was in November 2008, with the deadline for completed applications on 1 February 2009. In order to respond comprehensively to this call, a small team of ENV faculty were brought together to manage the proposal. A decision was taken to stay close to the sample curriculum provided in the ICESDP Report, which reflects the structure and content of the course which is in place at Columbia University. Key personnel across UW were consulted, including Deans of Faculties, and Associate Deans of Graduate Studies. Senior management of the University was also consulted. Numerous drafts of the initial MDP program were circulated within ENV, soliciting feedback and responding to constructive criticisms and suggestions.

The MDP program proposal submitted to the MacArthur Foundation was successful in securing seed funding and in ensuring that the University of Waterloo became the first Canadian University partner in this global network. In August 2009, the President of the University of Waterloo and the President of the MacArthur Foundation signed...
an agreement, and USD 200,000 in seed funding was made available to the University to support the full development of the MDP within the Faculty of Environment. The collaborative and consultative development of the MDP as reflected in this document has also benefited from the critical insight of the other member institutions in the global network. In particular, a network planning meeting was held in India in February 2010 to coincide with the annual Delhi Summit on Sustainable Development. Among other things, it was agreed at the Delhi meeting that:

- All members would offer the Global Classroom as a core course (listed as INDEV 601 below), though it would be up to members if the course would be a milestone or 'for credit'

- The so-called ‘four pillars’ – management, social science, physical science, and health – were non-negotiable. Training across these broad areas was therefore to remain at the heart of the MDP

- Member institutions were free to 'specialise', so creating distinctions between programs while building on each network member’s research, teaching and training strengths

- The MDP should be a two-year program (with 16 months serving as the minimum length of the program)

Since that meeting, the network has held several committee-specific meetings to examine meaningful ways of cooperating across the network, facilitating student and faculty movement, resource sharing (e.g. through a centrally managed data platform), jointly rolling out field placements, and working toward criteria for 'accreditation' as a bona fide MDP program. At the same time, discussions regarding curriculum revisions were on-going at UW. In particular it was decided that 1) blended learning models were most appropriate to on-campus delivery; 2) e-courses were particularly useful for building cooperation across the network without stressing limited budgets unnecessarily; 3) e-courses would facilitate the offering of several areas of specialisation; 4) student field placements were best handled through existing channels as developed by the INDEV program for its 4th year undergraduates who spend 8 months in the field, with longer term visions to create a Canada-specific placement for offer to other students in the global network as part of a network-wide approach to placement sharing; and 5) a guideline of approximately 20 students in each intake to ensure that the additional numbers will not cause undue stress to existing human, financial and technical resources across participating departments. Lastly, in line with other professionally-oriented programs on campus, the total number of courses was reduced to 13 (12 total half-credits plus 1 milestone) including an in-field four month practicum.

The student demand for International Development programs at both undergraduate and graduate level are increasing across Canada. There are currently 23 International Development Studies (IDS) programs, with many offering a Master’s Degree. All of the existing MA’s in IDS programs are thesis-based. Several are discipline specific. None offer the combination of cross-faculty and cross-department study combined with area specialisation and a field practicum as embodied in the MDP. **Most importantly, our program offers not only an opportunity to study at**
a first class Canadian University; it offers a portal into a global network of MDP programs whose combined resources are far greater than any one institution could offer.

Evidence of demonstrated direct demand for the MDP is derived from the admission statistics of the twelve programs in the network that offer the MDP in 2010-11. Statistics from these 12 partner institutions show that there were 976 applications, of which 475 were offered places and 227 accepted. Most schools were within one or two of their target intake; several significantly exceeded their intake targets. Tuition fees of the North-American and EU partner schools vary from USD 12,900 (Minnesota) to USD 41,800 (Columbia). Out of state/foreign student fees also vary widely from USD 15,000 (Dublin) to a high of more than USD 65,000 (Florida). Extremely high tuition fees (Columbia) and extremely high out of state student fees (Florida) probably account for these two Universities enrolling significantly fewer students than their target level (Florida 11 enrolled, 20 target; Columbia 27 enrolled, 35 target). At the same time, these numbers show significant demand despite high costs and global economic downturn. Given that both our national and foreign student fees will be significantly lower than our direct U.S. competitors in the network, it seems reasonable to conclude that the MDP at the University of Waterloo will attract a significant applicant pool from across the network.

1.4. Fields in the programs

This Master's program has been specifically designed to meet the needs of professionals in the field of International Development. It brings together knowledge from four broad categories of understanding: management, social science, physical science and engineering, and health thereby addressing the perceived 'missing link' identified in the ICESDP Final Report (see diagram on following page).

Within the field of International Development, our program also offers areas of concentration where students can take multiple courses to build their knowledge of particular topics. These include 1) Water Resources Management, 2) Natural Resources and Sustainable Food Systems, 3) Sustainable Urban Futures, 4) Tourism and Local Economic Development, 5) Global Governance, and 6) Peace and Conflict Studies. Each of these areas of concentration - or specialisation - showcases the strengths of different programs and units across faculties at UW.
Diagram showing Missing Links between Fields of Knowledge (4 spheres)

1.5. Review concerns expressed in previous appraisal and actions taken

Not applicable – new program.

1.6. Special matters and innovative features

As stated above, the proposed MDP is innovative in several ways:

- The MDP provides meaningful inter-disciplinary study across the four pillars of management, social science, physical science and health.

- The MDP offers, in combination with generalist knowledge, a variety of area specialisations

- The MDP delivers courses through a combination of relevant pedagogic methods, which include 1) on-campus blended learning classes, 2) a network-wide Global Classroom experience, 3) a series of e-courses (several of which are jointly offered with the University of the Western Cape) and 4) a mandatory for-credit field placement

- The MDP acts as a portal to a global network of MDP programs that are working toward maximizing human, technical and information modalities within the academic and applied field of International Development.
2. **THE FACULTY**

**List of faculty by field**

As highlighted in the Tables below, while housed within and managed by SEED, the MDP is being offered as a graduate degree program with multiple contributing units and partners. This inclusion of faculty from several units is both desirable and efficient to enable the program to meet its goals across the 'four pillars'.

Table 1 lists the faculty members involved in the graduate program, identifies their field affiliation, and indicates gender.

**TABLE 1**

N.B.: The intent of this Table is to establish the strength and the degree of involvement of the faculty complement participating in each field of the graduate program and who's CVs are provided in Volume II of the Brief. This is an important element in the assessment of program quality.

<table>
<thead>
<tr>
<th>Faculty Name &amp; Rank</th>
<th>M/F</th>
<th>Home Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruce Frayne</td>
<td>M</td>
<td>SEED (INDEV)</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larry Swatuk</td>
<td>M</td>
<td>SEED (INDEV)</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steve Young</td>
<td>M</td>
<td>SEED (INDEV)</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New for 2011-12</td>
<td></td>
<td>INDEV</td>
</tr>
<tr>
<td>New for 2011-12</td>
<td></td>
<td>INDEV</td>
</tr>
<tr>
<td><strong>Category 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jennifer Clapp</td>
<td>F</td>
<td>ERS</td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rob de Loe</td>
<td>M</td>
<td>ERS</td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brent Doberstein</td>
<td>M</td>
<td>GEM</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murray Haight</td>
<td>M</td>
<td>PLAN</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paul Kay</td>
<td>M</td>
<td>ERS</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stephen Murphy</td>
<td>M</td>
<td>ERS</td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Gender</td>
<td>Department</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Paul Parker Professor</td>
<td>M</td>
<td>GEM</td>
</tr>
<tr>
<td>Ian Rowlands Professor</td>
<td>M</td>
<td>ERS</td>
</tr>
<tr>
<td>Daniel Scott Associate Prof</td>
<td>M</td>
<td>GEM</td>
</tr>
<tr>
<td>Steffanie Scott Associate Prof</td>
<td>F</td>
<td>GEM and SEED</td>
</tr>
<tr>
<td>Tara Vinodrai Assistant Prof</td>
<td>F</td>
<td>GEM and SEED</td>
</tr>
<tr>
<td>Johanna Wandel Assistant Prof</td>
<td>F</td>
<td>GEM</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Health and Gerontology</td>
</tr>
<tr>
<td>Category 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goretty Dias Assistant Prof</td>
<td>F</td>
<td>SEED (EB)</td>
</tr>
<tr>
<td>Category 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmi Pant Adjunct Lecturer</td>
<td>M</td>
<td>SEED (INDEV)</td>
</tr>
</tbody>
</table>

**Category 1:** tenured or tenure-track core faculty members whose graduate involvement is exclusively in the graduate program under review. For this purpose the master’s and doctoral streams of a program are considered as a single program. Membership in the graduate program, not the home unit, is the defining issue.

**Category 2:** non-tenure-track core faculty members whose graduate involvement is exclusively in the graduate program under review.

**Category 3:** tenured or tenure-track core faculty members who are involved in teaching and/or supervision in other graduate program(s) in addition to being a core member of the graduate program under review.

**Category 4:** non-tenure track core faculty members who are involved in teaching and/or supervision in other graduate program(s) in addition to being a core member of the graduate program under review.

**Category 5:** other core faculty: this category may include emeritus professors with supervisory privileges and persons appointed from government laboratories or industry as adjunct professors. Please explain who would fall into this category at your institution.

**Category 6:** non-core faculty who participate in the teaching of graduate courses.

**External operating research funding**

Table 2 presents the external research funding by source and by year for the past seven years that has been received by faculty who will participate and contribute to
the MDP (see Table 1). The data show that there has been an aggregate and substantial increase in research funding by faculty for the period 2003-2010. It is anticipated that the growing interest in the MDP and the international exposure of the Faculty of Environment and the University of Waterloo to the global MDP network of students, practitioners and researchers will contribute further to the continued and sustained growth in operational research funding.

TABLE 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Granting Councils</th>
<th>Other Peer Adjudicated</th>
<th>Contracts</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>$123,486</td>
<td>$3,006</td>
<td>$69,240</td>
<td>$114,350</td>
</tr>
<tr>
<td>2004-05</td>
<td>$118,100</td>
<td>$6,753</td>
<td>$359,360</td>
<td>$126,762</td>
</tr>
<tr>
<td>2005-06</td>
<td>$195,306</td>
<td>$36,477</td>
<td>$303,894</td>
<td>$40,638</td>
</tr>
<tr>
<td>2006-07</td>
<td>$203,986</td>
<td>$57,000</td>
<td>$294,611</td>
<td>$5,000</td>
</tr>
<tr>
<td>2007-08</td>
<td>$213,743</td>
<td>$43,875</td>
<td>$221,395</td>
<td>$74,000</td>
</tr>
<tr>
<td>2008-09</td>
<td>$273,281</td>
<td>$194,150</td>
<td>$367,379</td>
<td>$69,131</td>
</tr>
<tr>
<td>2009-10</td>
<td>$379,731</td>
<td>$114,500</td>
<td>$1,084,359</td>
<td>$140,699</td>
</tr>
<tr>
<td>Totals</td>
<td>$1,507,633</td>
<td>$457,761</td>
<td>$2,700,238</td>
<td>$570,580</td>
</tr>
</tbody>
</table>
Graduate supervision

Table 3 shows the completed, and current, supervisorships of master's, doctoral, and post-doctoral students, by faculty member:

**TABLE 3**

<table>
<thead>
<tr>
<th>Member</th>
<th>Research Papers</th>
<th>Master's</th>
<th>PhD</th>
<th>Research Papers</th>
<th>Master's</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frayne</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Swatuk</td>
<td>6</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Young</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Category 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clapp</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>De Loe</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Doberstein</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haight</td>
<td>0</td>
<td>43</td>
<td>17</td>
<td>0</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Kay</td>
<td>0</td>
<td>20</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Murphy</td>
<td>0</td>
<td>33</td>
<td>1</td>
<td>0</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Parker</td>
<td>24</td>
<td>17</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Rowlands</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>D. Scott</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>S. Scott</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Vinodrai</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Wandel</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Hammond</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Category 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dias</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Category 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pant</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Current teaching assignments

Table 4.1 shows the number of graduate and undergraduate courses taught by each faculty member.

### TABLE 4.1

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frayne</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
<td>New Hire 2010</td>
</tr>
<tr>
<td>Swatuk</td>
<td>Associate Professor</td>
<td>INDEV 100</td>
<td>INDEV 200</td>
<td></td>
</tr>
<tr>
<td>Young</td>
<td>Associate Professor</td>
<td>ENS 402</td>
<td>ENS 202</td>
<td></td>
</tr>
<tr>
<td>New hire</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clapp</td>
<td>Professor</td>
<td>ERS 604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>De Loe</td>
<td>Professor</td>
<td>ERS 375</td>
<td>ERS 702</td>
<td></td>
</tr>
<tr>
<td>Doberstein</td>
<td>Associate Professor</td>
<td>GEOG 101</td>
<td>GEOG 356</td>
<td></td>
</tr>
<tr>
<td>Haight</td>
<td>Associate Professor</td>
<td>PLAN 432</td>
<td>PLAN 639</td>
<td></td>
</tr>
<tr>
<td>Kay</td>
<td>Associate Professor</td>
<td>ERS 360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murphy</td>
<td>Professor</td>
<td>ERS 275</td>
<td>ERS 381</td>
<td>ERS 390 ERS 490A,B ERS 491A,B ERS 492A,B</td>
</tr>
<tr>
<td>Parker</td>
<td>Professor</td>
<td>GEOG 459</td>
<td>GEOG 490</td>
<td>LED 686 LED 685 GEOG 669</td>
</tr>
<tr>
<td>Rowlands</td>
<td>Professor</td>
<td>GEOG 475</td>
<td>GEOG 671</td>
<td>On sabbatical 2010</td>
</tr>
<tr>
<td>D. Scott</td>
<td>Associate Professor</td>
<td>GEOG 452</td>
<td>GEOG 675</td>
<td></td>
</tr>
<tr>
<td>S. Scott</td>
<td>Associate Professor</td>
<td>GEOG 426</td>
<td>GEOG 490A,B</td>
<td></td>
</tr>
<tr>
<td>Vinodrai</td>
<td>Assistant Professor</td>
<td>GEOG 208</td>
<td>GEOG 676</td>
<td>LED 611</td>
</tr>
<tr>
<td>Wandel</td>
<td>Assistant Professor</td>
<td>GEOG 452</td>
<td>GEOG 393</td>
<td></td>
</tr>
<tr>
<td>Hammond</td>
<td>Assistant Professor</td>
<td>PHS 603</td>
<td>PHS 662</td>
<td></td>
</tr>
<tr>
<td><strong>Category 4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dias</td>
<td>Assistant Professor</td>
<td>ENBUS 402</td>
<td></td>
<td>New Hire 2010</td>
</tr>
<tr>
<td><strong>Category 5</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pant</td>
<td>Adjunct Lecturer</td>
<td>INDEV 212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 1</td>
<td>Faculty Member</td>
<td>Rank</td>
<td>Undergraduate</td>
<td>Graduate</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------</td>
<td>--------------------</td>
<td>---------------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>Frayne</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swatuk</td>
<td>Associate Professor</td>
<td>INDEV 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>INDEV 200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Young</td>
<td>Associate Professor</td>
<td>ENBUS 102</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ENBUS 202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New hire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 3</td>
<td>Clapp</td>
<td>Professor</td>
<td>GEOG 429</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>De Loe</td>
<td>Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Doberstein</td>
<td>Associate Professor</td>
<td>GEOG 101</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 356</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 206</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 430C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 475</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Haight</td>
<td>Associate Professor</td>
<td>GEOG 432</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PLAN 440</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kay</td>
<td>Associate Professor</td>
<td>ERS 250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ERS 360</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murphy</td>
<td>Professor</td>
<td>ENVS 444</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ERS 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ERS 381</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ERS 490A,B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ERS 491A,B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ERS 492A,B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parker</td>
<td>Professor</td>
<td>GEOG 459</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 490</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rowlands</td>
<td>Professor</td>
<td>ENVS 102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D. Scott</td>
<td>Associate Professor</td>
<td>GEOG 208</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 423</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S. Scott</td>
<td>Associate Professor</td>
<td>GEOG 393</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 490A,B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vinodrai</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wandel</td>
<td>Assistant Professor</td>
<td>GEOG 101</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GEOG 393</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hammond</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 4</td>
<td>Dias</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 5</td>
<td>Pant</td>
<td>Adjunct Lecturer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 4.3

#### Teaching Assignments for 2007/08

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frayne</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
<td>New Hire 2010</td>
</tr>
<tr>
<td>Swatuk</td>
<td>Associate Professor</td>
<td>INDEV 100</td>
<td>INDEV 200</td>
<td></td>
</tr>
<tr>
<td>Young</td>
<td>Associate Professor</td>
<td>ENV 102</td>
<td>ENBUS 202</td>
<td>ERS 474</td>
</tr>
<tr>
<td>New hire</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Category 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clapp</td>
<td>Professor</td>
<td>ENV 220</td>
<td>ERS 604</td>
<td>ERS 606</td>
</tr>
<tr>
<td>De Loe</td>
<td>Professor</td>
<td></td>
<td></td>
<td>New Hire 2009</td>
</tr>
<tr>
<td>Doberstein</td>
<td>Associate Professor</td>
<td>GEOG 101</td>
<td>GEOG 206</td>
<td>GEOG 356</td>
</tr>
<tr>
<td>Haight</td>
<td>Associate Professor</td>
<td>PLAN 332</td>
<td>PLAN 440</td>
<td>PLAN 639</td>
</tr>
<tr>
<td>Kay</td>
<td>Associate Professor</td>
<td>ERS 250</td>
<td>ERS 360</td>
<td></td>
</tr>
<tr>
<td>Murphy</td>
<td>Professor</td>
<td>ERS 100</td>
<td>ERS 270</td>
<td>ERS 381</td>
</tr>
<tr>
<td>Parker</td>
<td>Professor</td>
<td>GEOG 459</td>
<td>GEOG 475</td>
<td>LED 686</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GEOG 490A,B</td>
<td>GEOG 490</td>
<td>LED 685</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GEOG 669</td>
</tr>
<tr>
<td>Rowlands</td>
<td>Professor</td>
<td>ERS 370</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Scott</td>
<td>Associate Professor</td>
<td>GEOG 208</td>
<td>GEOG 671</td>
<td>GEOG 675</td>
</tr>
<tr>
<td>S. Scott</td>
<td>Associate Professor</td>
<td>GEOG 426</td>
<td>GEOG 475</td>
<td>GEOG 490A/B</td>
</tr>
<tr>
<td>Swatuk</td>
<td>Associate Professor</td>
<td>INDEV 100</td>
<td>INDEV 200</td>
<td></td>
</tr>
<tr>
<td>Vinodrai</td>
<td>Assistant Professor</td>
<td>LED 611</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wandel</td>
<td>Assistant Professor</td>
<td>LED 611</td>
<td></td>
<td>New Hire 2008</td>
</tr>
<tr>
<td>Hammond</td>
<td>Assistant Professor</td>
<td>PHS 603</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Category 4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dias</td>
<td>Assistant Professor</td>
<td>LED 611</td>
<td></td>
<td>New Hire 2010</td>
</tr>
<tr>
<td><strong>Category 5</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pant</td>
<td>Adjunct Lecturer</td>
<td></td>
<td></td>
<td>Sessional 2010</td>
</tr>
</tbody>
</table>
Commitment of faculty members from other graduate programs and/or from other institutions

The MDP program is designed as a multi-unit, inter-faculty professional program. Its modest size is designed to facilitate high quality interaction in the classroom and to enable sub-sets of the student cohort to join existing graduate courses without stressing existing resources or diminishing the quality of the classroom experience.

3. PHYSICAL AND FINANCIAL RESOURCES

Library resources

The following is a summary of University of Waterloo Library information resources and services in support of the proposed Master of Development Practice, prepared by Margaret Yuen, Liaison Librarian for International Development.

Information Resources

Material would be collected to support learning, teaching and research to the Master's level for the MDP with emphasis on:

- Sustainable development
- International development
- Human dimensions and climate change
- Energy and sustainability
- Economics of sustainable development
- Health, environment and planning

The decision to purchase Library materials for the MDP will be the responsibility of the Liaison Librarian, in consultation with the Faculty Library Representative. Materials may be obtained in a variety ways including firm orders, open orders, approval plans, and subscriptions.

The Library obtains resources in electronic format whenever it is possible and practical to do so. Some electronic resources are obtained directly by the Library and some are obtained through membership in the Ontario Council of University Libraries (OCUL) and the Canadian Research Knowledge Network (CRKN). Access to and use of electronic resources is generally governed by licence agreements with the publisher or vendor.

The Library's collection includes approximately 268 current electronic and print journals that will be of interest to the MDP. The collection also includes approximately 19,000 monographs in the subject areas of interest to the MDP.

The Library, along with the libraries of the University of Guelph (UG) and Wilfrid Laurier University (WLU), is a member of the Tri-University Group of Libraries (TUG) consortium. Collections from the University of Guelph and Wilfrid Laurier University will enhance the depth and breadth of local materials available in subject areas of interest to the MDP. The University of Guelph's collection on rural and agricultural development and Wilfrid Laurier's global studies collection will be of particular interest to the MDP.
Print Collections

Print collections to support the MDP are housed primarily in the Dana Porter Library. Access to the entire Library collection, as well materials held by UG and WLU, is available through the Web accessible tool known as PRIMO (http://primo.lib.uwaterloo.ca).

The Library's automated circulation system allows users to charge out materials during the hours that the Library is open (every day most weeks, with some closures between terms and during the Christmas break) and to renew items online anytime. With the exception of the current issues of print journals and reference materials, most of the material in the Library's collection circulates. Faculty, graduate students and staff may borrow most monographs for a term at a time.

The Library also delivers to faculty, graduate students and staff copies of print journal articles from any of the uWaterloo library locations, and from the libraries of the affiliated and federated colleges and universities. Faculty, graduate students and staff may also place holds on books from any of these libraries for pickup at any of the libraries' circulation desks. Books and journal articles not owned by the Library, but held by UG or WLU, may be requested by faculty, all students and staff through Primo. Items will be delivered to uWaterloo within three working days. The cost is of these services is absorbed by the Library.

In partnership with UG and WLU, the Library owns a facility, known as the Annex, which is used to house low-use research material. In keeping with the University's research intensive status, the TUG libraries ensure that a last copy is maintained in perpetuity, through the Preservation of Last Copy Agreement. Items housed in the Annex will be delivered to uWaterloo within three working days. The cost is of these services is absorbed by the Library.

Electronic Resources

The primary tool for accessing electronic resources selected by the Library is its Web site (http://www.lib.uwaterloo.ca). This site organizes and provides access to licensed resources available to only uWaterloo faculty, students and staff, as well as select Internet resources freely available to anyone. The site also provides access to electronic resources hosted by the OCUL Scholars Portal program (http://www.scholarsportal.info/index.html) and available to the uWaterloo community through the Library's participation in consortia purchasing through OCUL.

In addition, many of our electronic resources can be found through a search of Google Scholar (http://scholar.google.com/).

The Library uses linking technology (SFX) to enable users to link directly from research databases to the Library's full text electronic journal subscription or to the catalogue record for holdings and call number information. The Library also provides access to bibliographic management software (RefWorks).
uWaterloo faculty, students and staff may access electronic research databases and full text electronic journals from off-campus via the Library’s Proxy Server / Connect from Home feature.

The Library has purchased, or subscribes to, a range of electronic resources including research databases, full text journals, monographs, numeric data, and government publications. In addition, the Library identifies and provides access to select material freely available through the Internet. Such material includes open access journals, catalogues of libraries around the world, dictionaries, encyclopaedias, and style guides.

The following are some of the electronic resources that will be of particular interest to the MDP.

- AccessUN
- EconLit
- Encyclopaedia of Global Change: Environmental Change and Human Society
- Environment Abstracts
- Environmental Sciences and Pollution Management
- Geobase
- Leisure Tourism Abstracts
- OECD iLibrary
- PAIS International (Public Affairs International Service)
- Rural Development Abstracts
- Scopus
- Sociological Abstracts
- Web of Science
- World Development Indicators (World Bank)
- Worldwide Political Science Abstracts

Statistics and Numeric Data

Also available to members of the UW and WLU academic communities are the data holdings of the TriUniversity Group Data Resources (TDR) (http://nesstar.tdr.uoguelph.ca/webview/index.jsp) and <odesi> (http://search2.odesi.ca/), which provide Web access to resources such as the Statistics Canada surveys, including the Canadian Census. Access is also available to the data holdings of the Inter-university Consortium for Political and Social Research (ICPSR) in Ann Arbor, Michigan (http://www.icpsr.umich.edu/icpsrweb/ICPSR/). Other statistical sources include OCED iLibrary, and World Development Indicators.

Government Information

The Library collects and makes accessible government information in a variety of formats: electronic, paper, and microform documents; official government websites; bibliographic and statistical databases; maps; and numeric data sets.
The Library is a full depository for Canadian federal government documents, and a selective depository for Ontario Provincial government documents. Key publications from the United States, United Kingdom, United Nations and other international and non-governmental organizations are also acquired for the collection.

**Resources from Institutions other than TUG**

The Interlibrary Loan/Document Delivery (ILL) service provides faculty, students and staff with books, copies of journal articles, theses, and government documents from libraries within Canada and elsewhere. The Library uses OCUL's RACER Web based interlibrary loan system (http://racer.scholarsportal.info/vdx/index.html) to facilitate ILL access and service for users. With minor exceptions, the cost for this service is absorbed by the Library.

Most Canadian university libraries extend, at no charge, in-person borrowing privileges to faculty, students and staff from across the country. Faculty, students and staff are entitled to borrowing privileges at participating libraries (http://www.coppul.ca/rb/rbindex.html).

**Information Services**

*Information Literacy: Research Skills, Critical Appraisal, Ethical Use*

Drawing from the Ontario Council of Academic Vice-Presidents' Guidelines for University Graduate Degree Level Expectations and the Association of College and Research Libraries' Information Literacy Competency Standards for Higher Education the Liaison Librarian for International Development will be pleased to develop information literacy-related activities and materials, in consultation with faculty. These include the development of online modules, research guides and screencasts as well as the seminars and outcomes-based workshops for students in the program. These sessions support graduate students completing their literature reviews, comprehensives and graduate information research endeavours as part of their degree requirements and complement faculty mentoring in the same areas.

*Additional Information Services*

The Liaison Librarian for International Development is available for consultation with individuals or small groups of students. He or she may be contacted directly in person, by phone, and by e-mail if a personal visit to the Library is not convenient. The Librarian also develops and maintains an online subject guide for International Development, (http://subjectguides.uwaterloo.ca/international-development).

Reference assistance is available in person or by telephone at the Library's Information Desks, which are staffed by professional librarians and specially trained library associates. Alternatively, faculty, students and staff may get reference assistance via e-mail and online chat available through the Ask a Librarian service (http://www.lib.uwaterloo.ca/asklib/index.html).

The Library also offers general orientation programs including tours, workshops on research skills, and seminars for students. In addition, each fall, the Library
participates in a campus-wide orientation program for incoming students, including programs specific to international students and students with disabilities.

Faculty, students and staff may keep abreast of new services and developments in the Library by reading news@your library (http://www.lib.uwaterloo.ca/newsatlib/), an electronic newsletter prepared periodically.

Financial Support

International Development does not have a distinct budget, but materials of interest to the program are being purchased through other library funds. Electronic resources, such as Scopus, Geobase, and OECD iLibrary are purchased from the Electronic Resources library fund. Materials acquired for departments such as Geography and Environmental Management, Environment and Resource Studies, Planning, Economics, Sociology, and Political Science support the MDP.

Conclusion

Because of the strength of the existing collection, I believe that a high level support can be provided for the MDP, both in information resources and services. More detailed information including lists of print and electronic journals and the number of monograph titles in subject areas of interest to the MDP are available in the Library.

The Liaison Librarian would be pleased to discuss the Library's holdings and services with the appraisers at the time of a campus visit.

Prepared by Margaret Yuen, Liaison Librarian for International Development.

Reviewed by Susan Routliffe, Associate University Librarian, Information Resources and Services for Mark Haslett, University Librarian.

Laboratory facilities

Faculty and students in Environment use the Mapping, Analysis and Design lab. At the same time, there are a variety of other wet labs (for ecology-oriented studies) and dry labs (e.g. for GIS analysis) within the Faculty.

Computer facilities

All faculty and graduate students are provided with an account on the university computer network. This account gives them access to electronic mail facilities, internet, statistical software packages, scientific graphics, computer language compilers, a rich mathematical software library, etc. All students in the proposed Masters' program will be provided access to computers and printers.

Space

The Faculty of Environment is housed in two buildings, EV1 and EV2. Elements of the Environment and International Development Program are housed in St Paul's College. Political Science and Economics are housed in Hagey Hall. Applied Health Science is housed in B.C. Matthews Hall. Engineering/Management Science is
located in several buildings along the east side of campus. Faculty members in all these locations have access to private offices with telephone and computer facilities provided and supported by the University. It is expected that graduates in the proposed program will have access to shared office facilities in the same manner as other graduate students in the Faculty of Environment. It is anticipated that initially administrative services of the proposed program will be located in the EV1 building where SEED is currently located. However, a new 60,000 sqft building (EV3) is being constructed that will house SEED faculty, staff and other needs (see the live image at http://cam-mobotix-env.uwaterloo.ca/cgi-bin/guestimage.html). The new building is expected to be completed in mid-2011.

TABLE 5

<table>
<thead>
<tr>
<th>Current Space Allocation in EV1 Building</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Administrative staff</td>
</tr>
<tr>
<td>Faculty offices</td>
</tr>
<tr>
<td><strong>Total INDEV</strong></td>
</tr>
<tr>
<td>Kitchen&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Conference room&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Classroom&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>1</sup> Space under the control of the Dean's Office and thus not part of INDEV.

Financial support of graduate students

Students in the proposed Master's program will have access to some means of financial support, as follows:

- A number of teaching assistantships may be available (primarily to second year students)
- USD 100,000 of the MacArthur Foundation seed funding is designated for scholarships, particularly for applicants from outside of North America and Europe
- Additional and complementary scholarship and bursary funds will be sought from government and industry on an on-going basis

4. PROGRAM REGULATIONS AND COURSES

The intellectual development and the educational experience of the student

The MDP program is designed to facilitate a high quality of intellectual and applied experience for students. As soon as they are admitted into the program, the students will be assigned an academic adviser to guide them through all stages of the program. We are committed to involving students in all aspects of academic life. In addition to benefiting from various monthly speaker series, students will have
opportunities to benefit from the presence of other visiting scholars. Strong partnerships are in place with organizations, such as CIGI, to enrich students' experience while in the program.

The MDP degree will be completed over a period of 16 months for full-time students (9 required courses (including 8 for credit -- for a total of 4 credits -- and 1 for milestone), 3 electives (total 1.5 credits), 1 field work practicum (.5 credits). As a specialized, professional degree, the MDP program comprises mainly a course-based curriculum. In addition, students must complete a supervised fieldwork exercise. There is no research thesis requirement; however, the fieldwork exercise is designed such that students integrate the various forms of theoretical and practical knowledge and experience they gain and reflect upon it in a written assignment that will be presented to the entire group and stored for public access on the Faculty of Environment's dedicated website. The program begins with a five day Orientation Intensive and ends with a five day Capstone Intensive. The core courses in the program are delivered as blended learning. A significant component of the required coursework will involve working in groups on cases/projects, assessing, understanding, critically analyzing, and evaluating various development issues and challenges. The first year of the program will be delivered on-campus, followed by the field training component. The second year of the program will be delivered either as an on-campus specialisation, or through e-courses (depending on the specialisation chosen by the student), or a combination of the two. This variety of delivery formats is designed to accommodate working professionals who will be supported using self-directed learning packages offered through Distance Education. It is also designed to integrate partner institutions from the global South (in particular the University of Western Cape in South Africa, and its Southern African Development Community (SADC) partners) in the delivery of the program. The Capstone Intensive will be based upon a written assignment that students will present to their cohort over a five day period at the end of the program.

Program regulations

Admission

Successful applicants must have completed a recognized four-year honours degree (or equivalent) in a humanities, social science, health, engineering, environmental science, or business discipline with an overall average of at least 75% in the final 20 courses. Applicants must supply three letters of reference, at least two of which must be from academic referees. The third must be from a referee who can attest to the leadership competencies of the applicant. Applicants must also complete an interview (in person or on-line) to ensure that they have a background, both academically and experientially, in the areas of leadership and communication. Students must be able to demonstrate that they have had relevant experience with some aspect of environment or development. Special consideration will be given to those with relevant work experience.

Applicants whose first language is not English must demonstrate command of the English language with a minimum TOEFL score of 580 (paper-based), or 90 (internet-based) or the equivalent on one of the following comparable tests: CAEL 70, IELTS 7.0, MELAB 85. (See Academic Regulations - English Language Proficiency Certification)
http://gradcalendar.uwaterloo.ca/default.aspx?pageID=8945>for other acceptable tests of English.).

Degree requirements

Intake for the MDP program will occur in August of each year. On-campus courses will be offered only once in each academic year. Students will be required to adhere to the curriculum sequence as outlined in the course sequence charts. Students must maintain an overall average of 70% in the program. Students not meeting academic and program requirements may be required to withdraw from the program. Students will complete their degree within 16-24 months, with continuous registration for each term of the program. The MDP program is a campus-based, face-to-face program with significant on-line learning components.

Field Projects will be conducted during the Spring (third term) of study, following the normal Fall/Winter academic coursework cycle. Students will present their revised Field Placement reports either in person or through e-technology during a 5-day Capstone Intensive at the end of the program.

Course requirements

All students must complete the following components:

Core Courses: Nine (9) courses in total, with eight (8) for credit; plus the Global Classroom course (non-credit milestone); plus one (1) four-month field placement (including a pre-departure non-credit workshop and the five day Capstone Intensive exercise).

Area of Specialization Electives: Three (3) courses selected in one area of specialization.

Language requirements

While there are no specific language requirements, students will be encouraged to take second-language training through on-campus or e-courses.

Distance delivery

See above

Part-time studies

The MDP is not intended to be a part-time study program. However, in recognition that some of the target audience for the program will be mid-career professionals on leave from government departments and other employers, the second year of the program is designed to cater for their specific needs. In particular, students who have to return to work in their second year will be afforded the flexibility of completing the degree through Distance Education (hence the availability of e-learning modules, for example in the water management specialisation).

Recognising that under certain circumstances a student may switch from full-time to part-time study, as per UW policy, part-time students must complete their degree within four years of initial program entry, with continuous registration for each term of the program. Students will be permitted to transfer to part-time studies only upon
completion of the first year including the field training practicum. Approval for this must be given by the MDP graduate officer and Associate Dean of Graduate Studies.

**Total graduate courses listed and level**

The UW MDP program consists of 9 required courses, plus 3 electives and a field-training practicum [see below].

The curriculum is designed to provide graduates with a sophisticated set of skills enabling them to make relevant decisions by integrating complex forms of information. Students will receive training from a number of disciplines drawn from four main categories of study, informed by the four pillars of the MDP: management, social science, physical science and engineering, and health. Students entering our program will normally have a first degree in a relevant and related field of study (for example, economics, health, management, environment, engineering, politics, planning, development studies, etc.).

The curriculum balances questions and problems of economic growth with ecological sustainability and social equity in both developed and developing country settings. It also balances the identified global need for graduate-level generalist training (as described in detail in the ICESDP Final Report) with the desire of students to specialize in a particular research/issue area as proposed by this program (i.e. Water Resources Management, Natural Resources and Sustainable Food Systems, Sustainable Urban Futures, Tourism and Local Economic Development, Global Governance, and Peace and Conflict Studies.).

The specific curriculum is as follows:

**MASTER OF DEVELOPMENT PRACTICE CURRICULUM** (13 Courses – including Field Placement Practicum - 12 total half-credits)

**YEAR 1: CORE CURRICULUM: THE FOUR PILLARS**

Pre-programme initiation (August; 5 days)

**Term 1: September-December**

1. INDEV 601 Integrated Approaches to Sustainable Development (no credit milestone) (Global Classroom from Columbia University)
2. INDEV 602 International Development: theory and practice (GEOG 635) (.5) (Swatuk)
3. INDEV 603 Health Environment and Planning (PLAN 639) (.5 credit) OR Population Health (PHS 617) (e-course) (.5) OR Health Care Systems (HSG 611) (0.5) (Haight/McDonald/Stolee)
4. INDEV 609 Regional Planning, Economics and Investment Analysis (LED 619) (.5) (Parker, D/Woudsma)
5. INDEV 605 Economics for Sustainable Development (.5) (TBA)
Term 2: January-April

6. INDEV 606 Energy and Sustainability (GEOG 669) (.5) (Dias)
7. INDEV 604 Sustainable Cities (.5) (Frayne)
8. INDEV 607 Management for Sustainability (.5) (Young)
9. INDEV 608 Water and Security (.5) (Swatuk)
10. INDEV 610 Pre-Departure Workshop (no credit)

Term 3: May-August

11. INDEV 611 Summer Abroad: Field Placement Project (.5)

YEAR 2: SPECIALISATIONS/AREAS OF CONCENTRATION (select 1)

Term 4: September-December

Normally students will complete all three courses during the Fall semester (Sept-Dec); Some of the listed courses are not offered in the Fall semester, but will be available in Winter or Spring (to cater for cases where students are unable to complete during the normal time period). Note: some courses may not be offered in a given year. Students may be able to take equivalent courses at MDP partner universities. Students must consult with their advisor to determine an appropriate suite of courses.

Water Resources Management

3 electives from the following list (1.5 credits):

- INDEV 612 Introduction to Water Resources (e-course in collaboration with UWC)
- INDEV 613 Water, Human Security and Development (e-course in collaboration with UWC)
- INDEV 614 Integrated Water Management (e-course in collaboration with UWC)
- INDEV 615 Transboundary Water Governance

Natural Resources and Sustainable Food Systems

3 electives from the following list (1.5 credits):

- INDEV 616 Urban Food Security
- ENBUS 621 Carbon Management
- ENBUS 622 Product Life Cycle Assessment
- GEOG 665 Environmental Planning Theory and Practice
- GEOG 668 Environmental Assessment
- GEOG 673 International Perspectives on Resource and Environmental Management
• ERS 606 Governing Global Food and Agriculture
• GEOG 639 Food Systems and Sustainability

Sustainable Urban Futures

3 electives from the following list (1.5 credits):

• INDEV 616 Urban Food Security
• PLAN 602 Land Development Planning
• PLAN 614 Issues in Houses
• PLAN 622 Contemporary Urban Planning and Government
• PLAN 648 Urban Design Philosophy and Method
• PLAN 678 Advances in Public Transportation Planning, Operation and Control
• PLAN 684 Physical Infrastructure and Planning
• PLAN 623 Social Concepts in Planning
• PLAN 625 Methods of Social Investigation for Planners
• PHS 614 Health Program Evaluation

Tourism and Local Economic Development

3 electives from the following list (1.5 credits):

• TOUR 601 Contemporary Perspectives on Tourism
• TOUR 603 Consequences of Tourism
• TOUR 604 Social Planning for Tourism
• LED 615 Community Economic Development
• LED 685 Theories of Local Economic Development
• LED 686 Practice of Local Economic Development

Global Governance

3 electives from the following list (1.5 credits):

• HIST 606 International Development in Historical Perspective
• GGOV 610/PSCI 688 Governance of the Global Economy
• GGOV 611/PSCI 689 Emerging Economies in Global Governance
• GGOV 614/PSCI 614 International Business & Development
• GGOV 642/PSCI 639 Global Social Policy
• GGOV 650/PSCI 657 International Organizations & Global Governance
• GGOV 651/PSCI 617 Unconventional Diplomacy & Global Governance
• GGOV 652/PSCI 618 Non-State Actors in Global Governance
• PSCI 634 Comparative Public Administration
• PSCI 651 Democracy and Development
• ENBUS 631 Stakeholder Engagement
• ENBUS 632 Sustainability Reporting
• ENBUS 642 Business Partnerships and Policy for Sustainability

Peace and Conflict Studies

Tempiate2006.doc Page 26 of 34
3 electives from the following list (1.5 credits):

- PSCI 659 Conflict and Conflict Resolution
- PSCI 655 Ethnic Conflict and Conflict Resolution
- GGOV 640/PSCI 658 Human Rights in a Globalized World
- Three electives from Conrad Grebel's MAPACS program will be added once that program is in place.

Experiential learning is the foundation of our programs. The University of Waterloo (UW) pioneered co-operative education in Canada and has remained an international leader in the field for 50 years. The Faculty of Environment, now forty years old and one of the first of its kind in Canada, offers experiential learning through co-operative education, internships or field experience in the programs of a majority of our students. The integration of theory and practice is considered essential for effective training of the next generation of development professionals. The new program can draw on the experience and partnerships developed at UW as the official provider of the professional certification program for the Economic Developers Association of Canada. The traditional economic focus has been broadened to also incorporate environmental and social training to pursue sustainable development in communities across Canada. The Faculty has been active in the development of applied international research projects funded by CIDA (Canadian International Development Agency) and IDRC (International Development Research Council) for three decades and has a diverse range of partners in Asia, Africa and South America that will support the creation of the MDP program. The creation of an international network of professional graduate courses with a shared vision enriches the knowledge and experience base available for all students. A graduate program that incorporates learning from multiple disciplines and recognizes the central role of experiential learning in training the next generation of development professionals is a top priority for our Faculty.

As is evident from our course listings below, embodying sustainability principles and practice in our programs is a core goal of both existing and new programs. An annual ranking of how well sustainability issues are integrated into curricula and the student experience in Canadian institutions is undertaken by Corporate Knights magazine. This measure of ‘planet friendliness’ ranked UW #1 in Canada for schools of planning, architecture and business. The ranking in ‘business’ category was achieved by our Centre for Environment and Business - now part of SEED - and its innovative undergraduate program despite intense competition with 46 other established business schools across Canada. Sustainability is an equally integral part of the MDP program.

Course descriptions are as follows:

**INDEV 601 Integrated Approaches to Sustainable Development (n/c) SEM**
This is an e-course delivered through the Earth Institute, Columbia University, New York, for all members of the Master of Development Practice international network. It is a multidisciplinary, survey course in which students explore the connection between energy, health and poverty and the implications for sustainable development, the role of science, technology and policy, and the ‘energy ladder.’
Students will learn about the barriers to sustainable development and discuss cost-effective, culturally appropriate solutions.

INDEV 602 (GEOG 635) International Development: Theory and Practice (0.50) SEM This course emphasizes both theoretical and conceptual frameworks, techniques, practices and methods for analysis of development, focusing in particular on the development - environment interface and questions of sustainability.

INDEV 603 (PLAN 639) Health, Environment and Planning (0.50) SEM A seminar course on the environment sources and causes of disease and illness, the concepts of health, e.g., medical, scientific, economic, political, etc., the health services and facilities and related technologies and the role and responsibilities of (urban and regional) planners in the creation of a more healthful environment.

INDEV 604 Sustainable Cities (0.50) SEM This course surveys the dominant trends in human settlement since the industrial revolution. Emphasis is placed on selected problems (e.g., provision of basic services such as water supply and sanitation, waste disposal, expanding ecological footprints) faced by cities of various sizes (from mid-sized to mega), the resources available to deal with them, and new approaches to sustainability.

INDEV 605 (New Course) Economics for Sustainable Development (0.50) SEM This course introduces students to the history, theories and practices of development economics. Select issues such as trade, (public and private) capital flows, transnational corporations, technological change and innovation, agricultural and industrial policy and production, poverty reduction, structural adjustment, etc. are treated, as are recent developments in globalization and global economic governance.

INDEV 606 (GEOG 669) Energy and Sustainability (0.50) SEM Renewable and non-renewable energy supply systems are compared using economic and environmental measures. Consumption trends, conservation options and choices are considered at the household, community and global scales. Projects are used to demonstrate the economic and environmental challenges in the design of sustainable energy systems.

INDEV 607 (New Course) Management for Sustainability (0.50) SEM Students will obtain an understanding of the fundamental features of creative thinking, decision-making and problem-solving from both a descriptive and a normative point of view. Case studies showcasing real world management challenges across issues and scales will introduce the student to complexity in decision-making.

INDEV 608 (New Course) Water and Security (0.50) SEM The course will provide students with comprehensive background knowledge relevant to the increasingly important policy challenge of 'water security'. The course will explore how the multiple levels of water security – human, community, state, international, global – require broad but considered policy inputs. Emphasis will be placed on the interdependencies of different sectors (climate security, food security, energy security) that interact within a 'web' of water security.
INDEV 609 (LED 619) Regional Planning, Economic and Investment Analysis (0.50) SEM
Critical appraisal of regional economic analysis, projection and decision-making techniques. Problem based study of methods commonly used by regional planners, economic developers, and consultants. Identification of leverage sectors, trend analysis, investment decision-making and input/output analysis are discussed. New analysis applications and approaches are explored.

INDEV 610 Pre-Departure Field Placement Workshop (milestone) During their second semester, students will engage in a weekly exercise in preparation for their field placements. This exercise will involve elements of culture, language, geography, and history that is pertinent to their field placement.

INDEV 611 Field Placement (0.50) The student spends 4 months in the field, working with a local community partner on a particular development challenge. The student will draw on INDEV 700 as the basis for her/his practicum, report on their experiences in the field, and devise and draft a final report. The field placement initially will be facilitated through the existing INDEV partnership with World University Service Canada (WUSC) that provides highly-tailored placements for the undergraduate program. With time it is anticipated that field placements will also be provided through partner universities in the MDP global network (see www.macfound.org/site/c.ilkXIMQKrH/b.4711697/k.254A/Masters_in_Development.htm). Ideally, placements will be tailored to the student's specialization, while also providing a setting in which integrative planning and management is required (an MDP network Field Training Manual is in preparation). Following from the undergraduate program’s practice, students will be clustered so that they may learn from each other and share their experiences.

INDEV 616 (New Course) Urban Food Security (0.50) SEM This course focuses on the pressing issue of providing sustainable food sources for the world’s fast growing urban population. Drawing on research from around the world, and with a particular focus on the world’s largest cities, and their poorest residents, this seminar explores the ways and means of achieving sustainable urban food security.

Collateral and supporting departments
Included among faculty supporting the MDP program are members of the collaborating departments of Environment and Resource Studies (ERS), Geography and Environmental Management (GEM), Health Studies and Gerontology, Department of Political Science, the Balsillie School of International Affairs, the School of Planning, the School of Environment Enterprise and Development and Conrad Grebel College.

Faculties at the University of Waterloo have a demonstrated capacity for mounting creative Master's Degree programs, offered both as in-residence and through distance-education. For example, the Master of Public Health and the Master of Applied Management Science (Management of Technology) are only available as on-line programs, so reflecting the University's commitment to community outreach and its demonstrated expertise in technological innovation. Many Master's Degree programs have hands-on components such as the internship and field projects.
included in the Master of Applied Environmental Studies in Local Economic Development, the only Master's Degree of its kind in Canada.

The Faculty of Environment comprises several units (Department of Geography & Environmental Management; Department of Environment & Resource Studies; School of Planning; Centre for Knowledge Integration; and the School of Environment, Enterprise & Development), all of which have a significant component on sustainable development. The faculty comprises a strong combination of natural and social scientists with demonstrated ability to work together on joint research projects, undergraduate teaching, and co-supervision of Master's and PhD students. The Faculty has demonstrated capacity to work with international partners, as is evident, for example, in its innovative 2+2 degree programs whereby students at partner universities in China complete two years of study at their home institutions before coming to the University of Waterloo to complete their degrees. Taking advantage of the UW Faculty of Environment's 20-year relationship with Nanjing University, UW and Nanjing University (NJU) signed an agreement to establish a joint Sino-Canadian College in 2005. The mission of the Sino-Canadian College is to advance learning and knowledge through teaching, research, scholarship, training and knowledge transfer and to contribute to the internationalization of academic programs in both institutions in order to foster enhanced cross-cultural understanding and to better prepare students to contribute to a global society. The Sino-Canadian College provides a unique platform to explore opportunities to expand the scope of the proposed MDP to include a significant and highly respected international partner.

The Faculty of Environment has partnered with the Faculties of Applied Health Sciences, Arts and Engineering to provide creative undergraduate and graduate degree programs. Several professors are cross-appointed to more than one Faculty to support multi-disciplinary programs in Health Planning and Local Economic Development. The Faculty of Environment has had a 30+ year history of faculty members working on externally-funded international environment & development projects. These range from water management in Nigeria to sustainable development in Bali and Sulawesi; from water and land management in sub-Saharan Africa to environmental capacity-building in China; and most recently, assessing the impacts of climate change in Chile and post-Tsunami restoration in Asia. A dedicated Master of Development Practice will go a long way towards providing a steady supply of students with the necessary background and desire for international work.

Locally, the Center for International Governance Innovation (CIGI) is an important partner for the University of Waterloo, particularly through the Balsillie School of International Affairs. There are over 60 affiliated faculty members teaching in the three programs currently associated with the School: the PhD in Global Governance, the MA in Global Governance, and the Master of International Public Policy. Over 50 graduate students currently hold Balsillie Fellowships. CIGI's resources and global reach, and its strong links to the University of Waterloo, partly through the Faculty of Environment ensure that the delivery of our Master's Degree in Development Practice will be world class.

The proposed program will also build on an excellent relationship with St Paul's University College and will benefit from the presence of a state-of-the-art, well-stocked Dana Porter Library.
As part of its commitment to both innovation and internationalisation, the MDP is also building support from other Universities and Research Centres around the world. This includes those within the MDP Global Network, as well as others such as the University of the Western Cape. USD 40,000 has been ear-marked from the MacArthur support to nurture and develop these links. USD 60,000 has also been ear-marked to develop e-courses (internally and in partnership with other MDP network members) and support smart classroom development at SEED.

The organizational structure of the program is depicted in the figure on the following page. Overall responsibility for the program rests with the Program Director for International Development, within SEED. There is a formal relationship between the Faculty of Environment and St Paul's College regarding delivery of the INDEV undergraduate program. St Paul's provides residence for students in a ‘Living and Learning’ environment, helps market the program, contributes physical teaching space, and is charged with management of the student fieldwork placement program. St Paul's in future will also contribute teaching faculty to both the undergraduate and graduate programs. As with the undergraduate placement coordinator, the MDP field placement coordinator will be housed at St Paul's, and will report to the Director, INDEV, through the Principal of St Paul's college.
Figure Showing Organisational Structure of the Program
5. OUTCOMES

Enrolment and graduations

Not applicable.

Employment

The tag-line being used by the MDP Secretariat at the Earth Institute at Columbia University in New York is that we are building “the world’s best MBA for development practitioners”. Framed this way, it is clear that we envision our graduates as being capable of stepping into senior level positions in government, the private sector, and not-for-profits. We also envision their being capable of joining or establishing consulting firms. With their combination of critical lateral thinking and resource (e.g. Water, Food, Cities) or discipline specific specialisations (e.g. Management, Health), we believe that they will be well-suited for management positions across a very broad spectrum of companies both locally and globally.

Publications

Not applicable.

Projected graduate intake and enrolments

The University of Waterloo through SEED plans to offer courses beginning September 2011. During the first year of the MDP, intake is targeted at a modest 15 students, rising to a steady state intake of 25 students. International student enrolment is guaranteed through MacArthur scholarship support for the first two years, providing us with a welcome window of opportunity to pursue extra-university Foundation support for graduate scholarships.

It is envisioned that e-courses developed will be offered not only to MDP students, but to others on a pay-as-you-go basis with a vision to offering a complementary Graduate Diploma in Development Practice over time.
TABLE 12

PROJECTED INTAKE AND ENROLMENTS
Masters (M) and Doctoral (D) Programs

<table>
<thead>
<tr>
<th>YEAR</th>
<th>FULL-TIME</th>
<th>PART-TIME</th>
<th>TOTAL ENROLMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intake</td>
<td>Enrolments</td>
<td>Intake</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>20</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>25</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>25</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>25</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL ENROLMENT (fall term)
University of Waterloo

Brief for the Standard Appraisal of the

Graduate Diploma in Social Innovation

Submitted to the
Ontario Council on Graduate Studies
2010
# TABLE OF CONTENTS

1. INTRODUCTION ........................................................................................................................................... 3
  1.1. Brief listing of programs .......................................................................................................................... 3
  1.2. Objectives of the programs ...................................................................................................................... 3
  1.3. Method used for the self-study as well as the preparation of the brief, including faculty and student input and involvement........................................................................................................................................................................... 3
  1.4. Fields in the programs ............................................................................................................................. 4
  1.5. Concerns expressed in previous appraisals and action taken ................................................................. 5
  1.6. Special matters and innovative features .............................................................................................. 5

2. PHYSICAL AND FINANCIAL RESOURCES ......................................................................................... 12
  2.1. List of faculty by field ............................................................................................................................. 5
  2.2. External operating research funding ..................................................................................................... 8
  2.3. Graduate supervision ............................................................................................................................ 9
  2.4. Current teaching assignments ............................................................................................................. 10
  2.5. Commitment of faculty members from other graduate programs and/or from other institutions ........................................................................................................................................................................... 12

3. PROGRAM REGULATIONS AND COURSES .................................................................................. 18
  3.1. The intellectual development and the educational experience of the student .................................... 18
  3.2. Program regulations ............................................................................................................................. 19
  3.3. Part-time studies ..................................................................................................................................... 22
  3.4. Total Graduate Courses Listed and Level ........................................................................................... 22
  3.5. Collateral and supporting departments ............................................................................................... 24

4. OUTCOMES ................................................................................................................................................. 24
  4.1. Enrolment and graduations .................................................................................................................... 25
  4.2. Employment ......................................................................................................................................... 25
  4.3. Publications .......................................................................................................................................... 25
  4.4. Projected graduate intake and enrolments ............................................................................................ 25
INTRODUCTION

1.1. Brief listing of programs

The University of Waterloo seeks to offer a new Graduate Diploma in Social Innovation, through the School of Environment, Enterprise and Development in the Faculty of Environment. This Graduate Diploma design and delivery is led by faculty associated with the Social Innovation Generation national project (www.sig.uwaterloo.ca). Students in the diploma program will be executive level professionals from the public, private and social sectors and each will complete five (5) courses and an integrated action learning team project, comprising both face-to-face and virtual modules.

1.2. Objectives of the programs

As society becomes increasingly complex and interconnected, we are facing demands for innovative responses to intractable social problems. Our capacity to produce a steady flow of new solutions to major challenges and to move those innovations across institutional scales rapidly and effectively will have a huge impact on our capacity to adapt and transform in positive ways.

The objective of the program is to educate professional participants on the concepts and theories that frame established and emerging ideas related to social innovation. Additionally, a goal is to enhance participants’ understanding of current complex problem domains in society and their ability to apply new knowledge in order to transform these problem domains and build social resilience. Skill development for participants will focus on collaboration within diverse teams, mapping problem domains within systems, and identifying, developing and implementing relevant action research projects. Participants will share the unique experience of working together across sectors on common challenges and the opportunity to research and recommend action to intervene in systemic social problems that are of key concern. This learning and experience will greatly enhance participants’ capacity to lead within their own sector and to have impact on the issues upon which their professional roles focus.

These objectives will be achieved through a twelve (12) month part-time intensive executive education program to include four face-to-face on-campus modules as well as a series of virtual education and training/coaching modules. Participants will learn from faculty, professional experts and real world experiences, offering lectures, presentations, and field work opportunities. They will demonstrate their knowledge through written assignments and skill development through active participation in issue-based teams, culminating in a team research project and associated presentations and final reports.

1.3. Method used for the self-study as well as the preparation of the brief, including faculty and student input and involvement

From 2003 through 2006, Dr. Frances Westley, current Chair in Social Innovation at the University of Waterloo, led a unique MBA program at McGill University designed for and delivered to executives in Canada’s voluntary sector, with an overall goal to strengthen the sector’s leadership capacity. Reviews during the years following the conclusion of the
voluntary sector EMBA program, with its 180 alumni, numerous program faculty and funding partners, produced strong recommendations to offer a similar graduate program, but one specifically designed for broader student participation from multiple sectors and with a strategic focus on critical problem domains within Canadian society. This became one of the key deliverables agreed to upon the granting of funds in 2007 by the J.W. McConnell Foundation in partnership with the University of Waterloo to establish Social Innovation Generation (SiG@Waterloo).

A core curriculum design team, led by Frances Westley, has been regularly convening since 2008. This team includes UW faculty members associated with the SiG@Waterloo project, members of the SiG national partnership (MaRS Discovery District, PLAN Institute, McConnell Foundation), graduate students awarded the McConnell Fellowships in Social Innovation, as well as faculty experts from various fields and institutions, e.g. Thomas Homer-Dixon (Balsillie School for International Governance), Ed Jernigan (Centre for Knowledge Integration), and Brenda Zimmerman (Schulich School of Business, York University).

Over the summer of 2009, the voluntary sector EMBA alumni were surveyed to assess their satisfaction with the original program and to elicit their recommendations for the next iteration of education for social innovation. In September 2009, a two day design meeting with over twenty participants was held in Toronto; participants included experts and potential partners in the public sector (e.g. Human Resources and Development Canada), the private sector (e.g. Microsoft) and the social sector (e.g. Ashoka Foundation). In addition, academics from various fields and more than 10 academic institutions participated in this major design meeting. Recommendations were taken up by the core design team to be further refined.

As curriculum design approached completion, it has continued to be reviewed by stakeholders, most recently by potential student participants at a focus group session organized at a McConnell Foundation learning event in May 2010. Core design team members have also continued to meet individually with potential participants within the public and private sector in the chosen problem domain areas. The evolving curriculum has also been shared and input received from a number of UW Masters Programs, as an assessment of course equivalency and potential program collaboration. The final stages of curriculum design have been generously guided by senior administrators at Waterloo.

1.4. Fields in the programs

Social innovation studies is an emerging field that draws on many disciplinary fields in an effort to provide conceptual, theoretical tools and practical frameworks to students interested in understanding and researching the innovation process and to practitioners concerned with bringing innovations to scale. Included in this program will be theory and concepts drawn from the fields of a) complexity theory; b) resilience theory; c) innovation studies; d) design; e) organizational behaviour and group dynamics; f) leadership theory; g) research methodologies and research design; h) social movements; i) political science and
policy studies; j) social finance and economics; k) social theory; l) social marketing; m) sociology of culture and media.

1.5. Concerns expressed in previous appraisals and action taken

Not applicable; this is a proposal for a new program.

1.6. Special matters and innovative features

The proposed Graduate Diploma in Social Innovation is a centrepiece of the national project called Social Innovation Generation (SiG), a collaborative partnership between the Montreal-based J.W. McConnell Family Foundation, the University of Waterloo, the MaRS Discovery District in Toronto, and the PLAN Institute in Vancouver. SiG’s ultimate goal is to support whole system change through changing the broader economic, cultural and policy context in Canada to allow social innovations to flourish. The aim is to search for solutions that engage all sectors in Canada and to do so through collaborations that enrich both the whole and its parts. Central to this goal is to develop and deliver 21st century curriculum to executive-level professionals already active within critical problem domains in society.

The Faculty of Environment at the University of Waterloo is well suited to supporting this unique graduate diploma curriculum, the only program of its kind in Canada. Through well developed relationships with particular government units, socially responsible corporations, and successful social sector organizations, this program will intentionally attract learners from three diverse sectors to focus on real world social challenges. Key conditions which exist in the Faculty and which will contribute to ensuring program relevance, cohesion and sustainability include:

• A demonstrated capacity to act in an entrepreneurial fashion
• Experience with identifying and building cross-sectoral partnerships
• Existing and emerging world-class research, teaching and faculty involved in enhancing understanding of systems, complexity, resilience and innovation
• A national reputation for blending first class theoretical study with real world, practical experiences as education and training for students

The Faculty is home to Centres/Schools or faculty administrators of Centres/Institutes which are of particular relevance to this curriculum, thereby creating a climate of support and collegiality; these include, the Waterloo Institute for Complexity and Innovation, the School of Environment, Enterprise and Development, the Centre for Knowledge Integration, and, pending the appropriate governance approvals, the planned Waterloo Institute for Social Innovation and Resilience (WISIR).

2.1. List of faculty by field

The SiG national project and its associated funding arrangements have allowed the establishment of an interdisciplinary faculty team who share an interest in and responsibilities for the academic objectives of the SiG@Waterloo project, led by Dr. Frances Westley, a University of Waterloo faculty member and the J. W. McConnell Chair
in Social Innovation since 2007. These faculty are appointed in the School of Environment Enterprise and Development, or between the Faculty of Environment and the Faculty of Arts.
<table>
<thead>
<tr>
<th>Faculty Name &amp; Rank</th>
<th>M/F</th>
<th>Home Unit</th>
<th>Supervisory Privileges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holroyd, Carin Lee</td>
<td>F</td>
<td>Political Science / School of Environment, Enterprise &amp; Development</td>
<td>Master’s</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weber, Mark</td>
<td>M</td>
<td>School of Environment, Enterprise &amp; Development / Accounting &amp; Finance</td>
<td>Master’s</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Westley, Frances</td>
<td>F</td>
<td>School for Environment, Enterprise &amp; Development</td>
<td>Full</td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Category 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homer-Dixon, Thomas F.</td>
<td>M</td>
<td>Balsillie School of International Affairs / School of Environment, Enterprise &amp; Development</td>
<td>Full</td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jernigan, Ed</td>
<td>M</td>
<td>Centre for Knowledge Integration</td>
<td>Full</td>
</tr>
<tr>
<td><strong>Category 5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McCarthy, Daniel</td>
<td>M</td>
<td>Environment &amp; Resource Studies / School of Environment, Enterprise &amp; Development</td>
<td>Master’s</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weber, Olaf</td>
<td>M</td>
<td>School of Environment, Enterprise &amp; Development</td>
<td>Master’s</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brenda Zimmerman</td>
<td>F</td>
<td>Schulich School of Business, York University</td>
<td>Full</td>
</tr>
<tr>
<td>Associate Professor</td>
<td></td>
<td>*It is proposed that Dr. Zimmerman be offered an Adjunct Faculty position through SEED</td>
<td></td>
</tr>
</tbody>
</table>
2.2. External operating research funding

### TABLE 2

#### Operating Research Funding by Source and Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Granting Councils</th>
<th>Other Peer Adjudicated</th>
<th>Contracts</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-03</td>
<td>-</td>
<td>22,500</td>
<td>75,000</td>
<td>15,000</td>
</tr>
<tr>
<td>2003-04</td>
<td>-</td>
<td>7,500</td>
<td>-</td>
<td>15,000</td>
</tr>
<tr>
<td>2004-05</td>
<td>-</td>
<td>5,500</td>
<td>-</td>
<td>15,000</td>
</tr>
<tr>
<td>2005-06</td>
<td>16,728</td>
<td>5,500</td>
<td>-</td>
<td>15,956</td>
</tr>
<tr>
<td>2006-07</td>
<td>1,016,728</td>
<td>-</td>
<td>-</td>
<td>15,956</td>
</tr>
<tr>
<td>2007-08</td>
<td>1,016,728</td>
<td>44,420</td>
<td>-</td>
<td>208,500</td>
</tr>
<tr>
<td>2008-09</td>
<td>1,025,328</td>
<td>28,320</td>
<td>-</td>
<td>207,000</td>
</tr>
<tr>
<td>2009-2010</td>
<td>41,728</td>
<td>7,500</td>
<td>-</td>
<td>220,000</td>
</tr>
<tr>
<td>Totals</td>
<td>3,117,240</td>
<td>121,240</td>
<td>75,000</td>
<td>712,412</td>
</tr>
</tbody>
</table>

1. Peer adjudicated:
   - Resilience Alliance - $7,500
   - Bell University Labs - $41,640
   - AIC Institute - $3,600
   - Connaught matching grant - $11,000
   - Japan Foundation - $15,000
   - Japan Foundation - $20,000
   - Centre for International Governance Innovation - $15,000

An estimated 65% of research funding is used for students' stipends and support.
2.1. Graduate supervision

TABLE 3

<table>
<thead>
<tr>
<th>Completed and Current Numbers of Thesis Supervisions by Faculty Member</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Completed</strong></td>
</tr>
<tr>
<td><strong>Member</strong></td>
</tr>
<tr>
<td>Category 1</td>
</tr>
<tr>
<td>Holroyd, C.</td>
</tr>
<tr>
<td>Weber, M.</td>
</tr>
<tr>
<td>Westley, F.</td>
</tr>
<tr>
<td>Category 3</td>
</tr>
<tr>
<td>Homer-Dixon, T.</td>
</tr>
<tr>
<td>Jernigan, E.</td>
</tr>
<tr>
<td>McCarthy, D.</td>
</tr>
<tr>
<td>Weber, O.</td>
</tr>
<tr>
<td>Category 5</td>
</tr>
<tr>
<td>Zimmerman, B.</td>
</tr>
</tbody>
</table>

For the purposes of successfully supporting learning for the professionals who will register as students in this graduate diploma program, the faculty complement and their teaching/supervisory experience described in Tables 1-3 will offer excellent education, mentorship and leadership to cohesively invigorate this scholarly learning community. Course content delivery within the diploma will be done as a team approach, while students’ individual papers will be guided and evaluated by the primary instructors assigned to specific courses in the program. Final research project reports will be evaluated by the University of Waterloo faculty team associated with the SiG@Waterloo project.
2.2. Current teaching assignments

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Category 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holroyd, C.</td>
<td>Assistant Prof.</td>
<td>POL359 – Government and Politics in Asia</td>
<td>POL685 – Managing Global Prosperity</td>
<td>Univ. of Waterloo</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POL231 – Government and Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>POL490 – Social Innovation &amp; Social Entrepreneurship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weber, M.</td>
<td>Associate Prof.</td>
<td></td>
<td></td>
<td>Univ. of Toronto</td>
</tr>
<tr>
<td>Westley, F.</td>
<td>Professor</td>
<td></td>
<td>Comparative Theories of Social Innovation</td>
<td>JW McConnell Chair in Social Innovation</td>
</tr>
</tbody>
</table>

| **Category 3** |      |                                                             |                                                          |                                   |
| Homer-Dixon, T. | Professor |                                                            | Comparative Theories of Social Innovation                 | CIGI Chair of Global Systems      |
| Jernigan, Ed   | Professor | INTEG121 – Design and Problem Solving                      |                                                          | Director, Centre for Knowledge Integration |
|                |          | SYDE252 – Linear Signals and Systems                       |                                                          |                                   |
| McCarthy, D.   | Assistant Prof. | ERS390 – Systems Thinking and Intro to Interdisciplinary Research Methods | ERS 675 – Complex Systems Thinking                       | Univ. of Waterloo                |
|                |          | ERS475 – Systems, Social Innovation and Leadership          | ERS 701 - Sustainability in Socio-Ecological Systems     |                                   |
| Weber, O.      | Assistant Prof. |                                                            |                                                          | Non-academic employment           |

<p>| <strong>Category 5</strong> |      |                                                             |                                                          |                                   |
| Zimmerman, B.  | Associate Prof. |                                                            | HIMP 6110 Understanding the Canadian Health Industry    | Schulich School of Business       |
|                |          |                                                            | HIMP 6900 Independent Studies in Healthcare             |                                   |
|                |          |                                                            | MGMT 5150 Skills for Leadership                         |                                   |
|                |          |                                                            | SGMT 6100 Strategy Field Study                          |                                   |</p>
<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holroyd, C.</td>
<td>Assistant Prof.</td>
<td>POL490 – Managing Global Prosperity, POL231 – Government and Business, POL359 – Government &amp; Politics in Asia</td>
<td>POL685 – Directed Reading Course, POL685 – Managing Global Prosperity</td>
<td>Univ. of Waterloo</td>
</tr>
<tr>
<td>Weber, M.</td>
<td>Associate Prof.</td>
<td>Negotiations (Commerce) x 2</td>
<td>Adv. Negotiations &amp; Conflict Mgmt (MBA), Negotiations (MMI)</td>
<td>Univ. of Toronto</td>
</tr>
<tr>
<td>Westley, F.</td>
<td>Professor</td>
<td></td>
<td></td>
<td>JW McConnell Chair in Social Innovation</td>
</tr>
<tr>
<td>Homer-Dixon, T.</td>
<td>Professor</td>
<td>-</td>
<td>-</td>
<td>CIGI Chair of Global Systems</td>
</tr>
<tr>
<td>Jernigan, Ed</td>
<td>Professor</td>
<td>INTEG121 – Design and Problem Solving, SYDE252 – Linear Signals and Systems</td>
<td></td>
<td>Director, Centre for Knowledge Integration</td>
</tr>
<tr>
<td>McCarthy, D.</td>
<td>Assistant Prof.</td>
<td>ERS 339 – Biophysical and Socio-Economic Assessment, ERS 390 – Environmental Research Project</td>
<td>ERS 675 – Complex Systems Thinking</td>
<td>Univ. of Waterloo</td>
</tr>
<tr>
<td>Weber, O.</td>
<td>Assistant Prof.</td>
<td>-</td>
<td>-</td>
<td>Non-academic employment</td>
</tr>
<tr>
<td>Zimmerman, B.</td>
<td>Associate Prof.</td>
<td>-</td>
<td>-</td>
<td>Schulich School of Business</td>
</tr>
</tbody>
</table>
2.1. Commitment of faculty members from other graduate programs and/or from other institutions

It is proposed that Dr. Brenda Zimmerman, as a key contributor to the design and delivery of this graduate diploma, be offered University of Waterloo affiliation as an Adjunct Professor.

PHYSICAL AND FINANCIAL RESOURCES

3.1. Library resources

Report on Library Resources for the Proposed Graduate Diploma in Social Innovation
October 2010

The following is a summary of University of Waterloo Library information resources and services in support of the proposed Graduate Diploma in Social Innovation.

Information Resources
Material will be collected to support learning, teaching and research to the graduate level in Social Innovation with emphasis on:

- Social innovation
- Social change
- Decision making
- Leadership
- Problem solving
- Social finance
- Creative thinking
- Complex systems

Due to the interdisciplinary nature of the subject, Social Innovation receives a high level of library support from departments such as Sociology, Psychology, Economics, Political Science, Systems Design Engineering, and Environment and Resource Studies.

The decision to purchase Library materials for Social Innovation will be the responsibility of the Liaison Librarian, in consultation with the Faculty Library Representative for SEED. Materials are obtained in a variety ways including firm orders, open orders, approval plans, and subscriptions.

The Library obtains resources in electronic format whenever it is possible and practical to do so. Some electronic resources are obtained directly by the Library and some are obtained through membership in the Ontario Council of University Libraries (OCUL) and the Canadian Research Knowledge Network (CRKN). Access to and use of electronic resources is generally governed by licence agreements with the publisher or vendor.

The Library’s collection includes approximately 189 current electronic and print journals that will be of interest to Social Innovation. The collection also includes approximately 6,000 monographs in subject areas of interest to Social Innovation.

The Library, along with the libraries of the University of Guelph (UG) and Wilfrid Laurier University (WLU), is a member of the Tri-University Group of Libraries (TUG) consortium. Collections from the University of Guelph and Wilfrid Laurier University will enhance the depth and breadth of local materials available in subject areas of interest to Social Innovation.

**Print Collections**

Print collections to support Social Innovation are housed primarily in the Dana Porter Library, but the science and engineering related materials are housed in the Davis Centre Library. Access to the entire Library collection, as well materials held by UG and WLU, is available through the Web accessible tool known as PRIMO (http://primo.lib.uwaterloo.ca).

The Library's automated circulation system allows users to charge out materials during the hours that the Library is open (every day most weeks, with some closures between terms and during the Christmas break) and to renew items online anytime. With the exception of the current issues
of print journals and reference materials, most of the material in the Library's collection circulates. Faculty, graduate students and staff may borrow most monographs for a term at a time.

The Library also delivers to faculty, graduate students and staff copies of print journal articles from any of the uWaterloo library locations, and from the libraries of the affiliated and federated colleges and universities. Faculty, graduate students and staff may also place holds on books from any of these libraries for pickup at any of the libraries' circulation desks. Books and journal articles not owned by the Library, but held by UG or WLU, may be requested by faculty, all students and staff through Primo. Items will be delivered to uWaterloo within three working days. The cost of these services is absorbed by the Library.

Books and copies of articles from print journals will be sent, upon request, to students living, temporarily, some distance from the campus. With the exception of return postage for books, the cost is absorbed by the Library.

In partnership with UG and WLU, the Library owns a facility, known as the Annex, which is used to house low-use research material. In keeping with the University's research intensive status, the TUG libraries ensure that a last copy is maintained in perpetuity, through the Preservation of Last Copy Agreement. Items housed in the Annex will be delivered to uWaterloo within three working days. The cost of these services is absorbed by the Library.

**Electronic Resources**

The primary tool for accessing electronic resources selected by the Library is its Web site (http://www.lib.uwaterloo.ca). This site organizes and provides access to licensed resources available to only uWaterloo faculty, students and staff, as well as select Internet resources freely available to anyone. The site also provides access to electronic resources hosted by the OCUL Scholars Portal program (http://www.scholarsportal.info/index.html) and available to the uWaterloo community through the Library's participation in consortia purchasing through OCUL.

In addition, many of our electronic resources can be found through a search of Google Scholar (http://scholar.google.com/).

The Library uses linking technology (SFX) to enable users to link directly from research databases to the Library's full text electronic journal subscription or to the catalogue record for holdings and call number information. The Library also provides access to bibliographic management software (RefWorks).

uWaterloo faculty, students and staff may access electronic research databases and full text electronic journals from off-campus via the Library's Proxy Server / Connect from Home feature.

---

1. The Preservation of Last Copy Agreement is available online (http://www.lib.uwaterloo.ca/staff/irmc/last_copy_agreement_sept06.html).
The Library has purchased, or subscribes to, a range of electronic resources including research databases, full text journals, monographs, numeric data, and government publications. In addition, the Library identifies and provides access to select material freely available through the Internet. Such material includes open access journals, catalogues of libraries around the world, dictionaries, encyclopaedias, and style guides.

The following are some of the electronic resources that will be of particular interest to Social Innovation:

- Business Source
- Compendex
- EconoLit
- Philosopher’s Index
- PsychINFO
- Scopus
- Sociological Abstracts
- Web of Science
- Worldwide Political Science Abstracts

**Statistics and Numeric Data**

Also available to members of the UW and WLU academic communities are the data holdings of the TriUniversity Group Data Resources (TDR) (http://nesstar.tdr.uoguelph.ca/webview/index.jsp) and <odesi> (http://search2.odesi.ca/), which provide Web access to resources such as the Statistics Canada surveys, including the Canadian Census. Access is also available to the data holdings of the Inter-university Consortium for Political and Social Research (ICPSR) in Ann Arbor, Michigan (http://www.icpsr.umich.edu/icpsrweb/ICPSR/).

**Resources from Institutions other than TUG**

The Interlibrary Loan/Document Delivery (ILL) service provides faculty, students and staff with books, copies of journal articles, theses, and government documents from libraries within Canada and elsewhere. The Library uses OCUL’s RACER Web based interlibrary loan system (http://racer.scholarsportal.info/vidx/index.html) to facilitate ILL access and service for users. With minor exceptions, the cost for this service is absorbed by the Library.

Most Canadian university libraries extend, at no charge, in-person borrowing privileges to faculty, students and staff from across the country. Faculty, students and staff are entitled to borrowing privileges at participating libraries (http://www.coppul.ca/rb/rbindex.html).
Information Services

Information Literacy: Research Skills, Critical Appraisal, Ethical Use

Drawing from the Ontario Council of Academic Vice-Presidents’ Guidelines for University Graduate Degree Level Expectations and the Association of College and Research Libraries’ Information Literacy Competency Standards for Higher Education the Liaison Librarian for Social Innovation develops information literacy-related activities and materials, in consultation with faculty. These include the development of online modules, research guides and screencasts as well as the seminars and outcomes-based workshops for students in the program. These sessions support graduate students completing their literature reviews, and graduate information research endeavours as part of their diploma requirements and complement faculty mentoring in the same areas.

Additional Information Services

The Liaison Librarian for SEED is available for consultation with individuals or small groups of students. He or she may be contacted directly in person, by phone, and by e-mail if a personal visit to the Library is not convenient.

Reference assistance is available in person or by telephone at the Library's Information Desks, which are staffed by professional librarians and specially trained library associates. Alternatively, faculty, students and staff may get reference assistance via e-mail and online chat available through the Ask a Librarian service (http://www.lib.uwaterloo.ca/asklib/index.html).

The Library also offers general orientation programs including tours, workshops on research skills, and seminars for students. In addition, each fall, the Library participates in a campus-wide orientation program for incoming students, including programs specific to international students and students with disabilities.

Faculty, students and staff may keep abreast of new services and developments in the Library by reading news @your library (http://www.lib.uwaterloo.ca/newsatlib/), an electronic newsletter prepared periodically.

Financial Support

As stated earlier in this report, Social Innovation does not have a distinct budget, but materials of interest to the program are being purchased through other library funds. Electronic resources, such as Sociological Abstracts, Scopus, and Web of Science are purchased from the Electronic Resources library fund. Materials acquired for other departments, such as Sociology, Psychology, Economics, Political Science, Systems Design Engineering, and Environment and Resource Studies are of interest to Social Innovation.
Conclusion

Because of the strength of the existing collection, it is believed that a high level of support for Social Innovation can be provided by the Library, both in information resources and services. More detailed information including lists of print and electronic journals, and the numbers of monograph titles in subject areas of interest to Social Innovation are available in the Library.

3.1. Laboratory facilities

Laboratory facilities will not be required for this program.

3.2. Computer facilities

All faculty and graduate students make extensive use of computing technology in their activities, and are provided access to up-to-date computing equipment and IT support through the Faculty of Environment. Faculty members are provided with computer hardware and software of their choice. Students in the graduate diploma program will require remote network access, including capacity for audio and visual participation in online modules; should this be a significant barrier to any of the professional learners we engage in the program, computer equipment will be provided as part of the McConnell Foundation scholarships. During on-campus, face-to-face modules, additional computer access will be available on site at the SiG@Waterloo offices which have four to six (4-6) computer stations available at all times.

All faculty and graduate students are provided with an account on the university mainframe that gives hard wire as well as wireless access to email, internet, statistical software packages (e.g. SPSS), scientific graphics, etc. Additionally, all will have access to UW ACE and other online platforms (e.g. Adobe Connect) to support virtual learning, networking and coaching.

3.3. Space

Since its inception Social Innovation Generation@Waterloo has been located in an off-campus building in downtown Kitchener (195 King Street West) approximately 5km from the main UW campus. Facilities located here include faculty and staff office space, graduate student work spaces and meeting facilities. Additionally, all faculty members associated with SiG@Waterloo also have office space within their respective home department on the main UW campus. As the building of a new facility for the Faculty of Environment nears completion and which will house, among others, the School for Environment, Enterprise and Development, discussions are taking place which may result in the entire SiG project staff and faculty and graduate students relocating to new space on campus. If this decision is made, a move could happen within the next three years.

The executive education through the graduate diploma being proposed has been designed for each cohort to be present on campus for face-to-face modules for a total of seventeen (17) days each academic year (more than half of these will take place on weekend days); all other contact hours will be through excellent online modules for extended learning.
Diploma participants will meet for course work and group work on campus in classrooms available in one of three Faculty of Environment buildings. There will not be a need for these particular learners to have assigned campus office space nor research activity space, although they will have access to meeting rooms, existing shared graduate offices on and off campus, as required.

<table>
<thead>
<tr>
<th>Faculty offices</th>
<th>Off-campus</th>
<th>On-campus</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># of offices</td>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Space (sq. ft.)</td>
<td>2400</td>
<td>480</td>
<td>2880</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grad. offices</th>
<th>Off-campus</th>
<th>On-campus</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># of offices</td>
<td>shared</td>
<td>shared</td>
<td>2000</td>
</tr>
<tr>
<td>Space (sq. ft.)</td>
<td>1600</td>
<td>2000</td>
<td>3600</td>
</tr>
</tbody>
</table>

### 3.4. Financial support of graduate students

Many students enrolling in the graduate diploma would be significantly financially supported by a new scholarship grant from the McConnell Foundation, funding full tuition for approximately 50% of students in the first three cohorts of the program.

<table>
<thead>
<tr>
<th>Year</th>
<th>Students funded</th>
<th>McConnell Scholarship (#)</th>
<th>Self-funded (#)</th>
<th>$ / student</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>17</td>
<td>16</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>2012-13</td>
<td>17</td>
<td>16</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>2013-14</td>
<td>17</td>
<td>16</td>
<td>TBD</td>
<td></td>
</tr>
</tbody>
</table>

### PROGRAM REGULATIONS AND COURSES

#### 4.1. The intellectual development and the educational experience of the student

The graduate diploma is conceived as an applied program, targeted at executive level professionals from three different sectors that offers a part-time, flexible schedule to accommodate learning while working. The diploma is focused on understanding the complex systems in which social problems are embedded and offers a range of learning experiences to immerse students in both conceptual models and real world issues through presentations, discussions, field trips to examine real contexts, and group work.

Small cohorts will form three groups, with multi-sector representation, but with shared interest in a particular social issue. Each of these issues-based groups will be assigned an experienced coach. These program staff will pay particular attention to engaging the students as a diverse community with common aspirations, supporting the process of revealing individual/sector assumptions as well as deepening individual/team awareness of their own and others’ perceptions of context, challenges and opportunities. A key objective will be to affirm and enhance an understanding of the value of cross-sectoral initiatives and to begin developing capacities for ongoing, open communication among participants and program faculty and staff in order to support successful development of a learning community. The coaches will also act as teaching assistants and will offer these executive
learners intentional support related to the learning skills necessary to successfully complete program assignments, research projects and final reports.

- The diploma will be project-focused with participants deliberately recruited because of their interest/involvement in 3 different "problem domains" that will vary from one cohort to the next, and be selected by the design team based upon tri-sector interest and relevance, as well as opportunity to support policy development.

- Within each problem domain we will seek to balance representatives from private, public and social sectors. So, for example, if food security is the issue we will attempt to engage those working in the food production and distribution systems, government representatives responsible for food inspection, agriculture etc., and NGOs working in food banks, distribution systems, etc.

- The development of the team research projects will be integrated throughout the diploma's courses and focus on:
  - understanding the complex dynamics shaping the focal problem domain through research and reading;
  - identifying opportunities for innovation and existing innovation with broad impact potential;
  - identifying the financial, political and social barriers, and opportunities for scaling the innovation and creating practical recommendations for action.

- Each team will be responsible for responding to challenges raised by an expert, external panel (tri-sectoral representation). These panels will hear the students' presentations of their research reports, including recommendations for applying their research to address the complexity and enhance resilience within the problem domain. In addition, there may be opportunities, arranged by the expert panel members and program faculty, for students to present their findings and recommendations to stakeholders within each of their specific sectors. Finally, the SiG@Waterloo project will coordinate, in collaboration with interested Waterloo colleagues (for example, the Waterloo Institute for Complexity and Innovation) a campus symposium at which the groups graduating from the diploma program may present their work to a diverse audience of faculty, students, professionals and practitioners with interest in the cohort's focal social issues.

4.2. Program regulations

The content of the program will be five course equivalents including a team based project. The courses will be offered on a modular basis, one 4 half-day pre-module on line (4 half days x 4 hours = 16 hours), four face to face modules at the university (5,4,5,4,5,3 days = 17 days x 10 hours for total of 170 hours) and three inter-modular 2 day online/distance course offerings (6 days x 8 hours = 56 hours), which is a grand total of 242 hours of class time (five course equivalents). It is expected that each hour of "class time" will require at least an additional hour of preparation or extra-class work. All students will take the five required courses for the diploma (see list below) and complete the required readings. SI601, SI-602 and SI-604 will be evaluated using synthesis papers (one per course: SI-601, SI-602, SI-604, 15-20 pages in length) and the evaluation of participation. SI-603, Team-based skills will be evaluated using a combination of reflection papers, and skill-based performance evaluations. SI-605, the project, will require a proposal (2 pages), a progress
report (3 pages) and a full presentation report of the project findings (20 pages in length). SI-605 grades will include both group and individual performance evaluations. Grades will be awarded by course instructors (coaches will contribute to grade discussion for participation and skill development).

The development of the team project will be integrated throughout the five diploma courses and focus on understanding the complex dynamics shaping the focal problem domain through research and reading; identifying opportunities for innovation and existing innovation with broad impact potential; identifying the financial, political and social barriers and opportunities for scaling the innovation and creating practical recommendations for action. Each team will be responsible for responding to challenges raised by an expert, external panel (tri-sectoral representation) to which their reports will be presented.

**TIMELINE**

**Pre-module: Online (FALL 16 hours)**
Introduction and Orientation; program overview, introduction to issue domain (8 hours)
Introduction to projects and teams (8 hours)

**Module 1 (FALL on-campus 5 days/50 hours)**
SI-601 Social Innovation in Complex Systems (36 hours)

SI 603 Team based skills (10 hours)
SI 605- Project (4 hours)

**Inter-Module 1 (FALL online/distance/16 hours)**
SI-603 Team based skills (8 hours)
SI- 605 Project (8 hours)

**Module 2 (WINTER on-campus 4.5 days/45 hours)**
SI-603 Team based skills (9 hours)
SI- 602 Design thinking for system change (36 hours)

**Inter-Module 2 (WINTER online/distance) (16 hours)**
SI-603 Team based skills (9 hours)
SI-605- Project (7 hours)

**Module 3 (WINTER on-campus 4.5 days/45 hours)**
SI –604 Changing institutions: Social finance, social marketing, and policy development for social innovation; (36 hours)
SI- 605 Project (9 hours)

**Inter-Module 3 (SPRING online/distance) (16 hours)**
SI 605- Project (16 hours)
Module 4 (SPRING on-campus 2.0 days/20 hours)
SI605- Project presentation and wrap up (20 hours)

Part-time studies

The diploma will only be delivered as a part-time program, allowing students to maintain professional obligations. Course work will be a combination of distance modules and activities, and four short, intensive face-to-face modules at the University (5, 4, 3, and 2 day modules).

Admission requirements

Applicants must:

• have completed a recognized four-year Honours Bachelor’s degree in a Canadian university (or its equivalent), and have a minimum of 75% overall standing in the last two years of study.
• have at least three years of work experience in a private, public or non-profit sector setting, either through full or part-time employment, through documented volunteer efforts, or through cooperative work terms as an undergraduate student.
• provide proof of competency in English (if applicable). A score of at least 600 is required in the Test of English as a Foreign Language (TOEFL). A score of 250 is required on the computerized version of the TOEFL. (See Academic Regulations - English Language Proficiency Certification <http://gradcalendar.uwaterloo.ca/default.aspx?pageID=8945> for other acceptable tests of English.)
• provide two letters of reference; preferably one academic and one professional.
• provide a statement of interest or purpose.
• provide a current curriculum vita.
• submit a University of Waterloo application form and official transcripts from each previous post-secondary institution.

Distance delivery

Significant portions of the diploma program will be delivered using online technologies for extended learning. The graduate diploma is viewed as an executive diploma offered to professionals working in the field, and as such, distance delivery minimizes disruption to participants by allowing them increased flexibility when combining study and work commitments. These distance modules will be considered extensions and ongoing learning stemming from the core content presented during four face-to-face, on-campus modules, providing ample opportunities to develop a strong learning community.

Field-leading experts have been consulted and will be engaged to support faculty and coaches in delivering education at a distance. Full and accessible support for students to ensure their comfort and effectiveness as distance education learners will be provided by program staff.
4.3. Part-time studies

As an executive education program, with a specific, targeted recruitment strategy to educate professionals currently involved in private, public and social sector roles focused on social problem domains, the graduate diploma program is designed to be solely offered as part-time studies. This allows students the flexibility to minimize professional and personal impacts when combining learning and working. Additionally, engaging with students part-time, affords important opportunities to apply learning throughout the diploma program directly in their professional work environments.

4.4. Total Graduate Courses Listed and Level

**SI – 601 Social Innovations in Complex Systems**

In this course we will explore the use of complexity theory to understand both the challenges to and potential responses of managers who are seeking to manage complex social and ecological systems. We will introduce complexity theory, resilience theory and the emerging theories of social innovation on which these are based in order to explore what kind of institutional and social structures, markets, governments or values are best suited to managing highly complex environments. Topics will range from what makes a social or ecological system complex, how we understand such phenomena as “chaotic” patterns, attractors of various kinds, tipping or bifurcation points and critical transition. In a world that is by definition unpredictable and uncontrollable, management strategies need to change to manage emergence, evaluate progress, and innovate. Complexity theory as a “theoretical lens” is not as yet a familiar approach. Methodologies for research using this paradigmatic approach are not clearly elucidated. If those responsible for governing complex systems do not understand how they operate, much energy will be wasted. If researchers do not develop the frameworks and skills for exploring complex social and ecological phenomena, how will we build the knowledge necessary for governance? We will attempt to answer these and other questions in this course. We will also explore the concept of leadership in social innovation, and the role of institutional, social and policy entrepreneurs in successful innovation.

**SI – 602 Design Thinking for System Change**

In this course we will draw on design thinking to understand how successful social innovations arise, challenge and are integrated into the broader institutional system. Innovation lies not so much in the individual elements (ideas, technologies, programs, processes) as in the *relationship* between the elements. It is in these relationships that radical or disruptive properties of social innovation arise. In incremental innovation in any system, the relationship between the innovation and the broader system in no way disturbs the pre-existing institutional or technical arrangements. Rather the incremental innovation “docks” easily into the existing structures. In radical innovations, no such easy docking is available: to adopt the innovation means to change and disturb adjacent structures. In this course we will look at the history of using design thinking as a tool for supporting system change at local or broad scales - from designers like Bruce Mau, who uses this approach to describe what he calls “massive change”, to complexity thinkers like Brian Arthur who are intent on understanding the nature of technological innovation. We will also explore the methodological implications of design thinking approaches including the notion of pattern language (Alexander), visual language, and simulations.
SI –603 Team based process and research skills – Communication, Facilitation and Collaboration, Problem solving, Conflict management and Decision-making:
This will be a skill based course in which students will be introduced to the skills required to participate in complex problem solving in a collaborative team setting. Students will be introduced to strategies for managing team diversity and skill sets, will engage in self-diagnostic exercises and help to see their role in the team. They will be introduced to the challenge of complex problem solving, the problem solving cycle, including goal setting, analysis, generating alternatives and action planning and the rational skills involved. Using a multi-modal approach, students will learn about conflict management, negotiation, and behavioural decision-making in teams. This course will be ongoing throughout the program.

SI –604 Scaling Up for Greater Impact: Social finance, social marketing and public policy development for social innovation
This course will explore the challenges of scaling up social innovations for greater impact. Most social innovations stay at a local level and their impact is of relatively limited scope and duration. In order to make social innovations “part of the water supply” we will need to see a change in the way broad resources flow, the cultural understandings and definitions of the problem and a shift in the laws and policies that govern the problem domain. This requires particular lenses and particular skills on the part of institutional entrepreneurs. We will cover the new approaches to social finance, to making resources more readily available to social innovators, and focus on what is happening in other countries such as England, US and Australia. We will also cover the challenges of influencing public policy and explore both the processes and structures that have created the conditions for social innovation to flourish in other countries and in Canada. We will look at social marketing and the challenge of changing social values and narratives, so that the social innovation gains wide and deep acceptance.

SI-605 Social Innovation Project Course
The social innovation diploma is an applied and action learning opportunity. All modules will be structured around the team project. These projects will be focused on different problem domains and will involve cross – sectoral perspectives (public, private and not for profit). Each project will have an expert panel associated with it that will set up challenges and review the final project presentations.
TABLE 7

<table>
<thead>
<tr>
<th>Proposed Courses to be Offered to Graduate Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
</tr>
<tr>
<td>SI -601 Social Innovation</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SI -602 Design Thinking</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SI -603 Team Skills</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SI -604 Scaling Up</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SI -605 Project</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

4.1. Collateral and supporting departments

Expert faculty, consultants and professional practitioners associated with the Social Innovation Generation national project have expressed interest in contributing as guest lecturers and/or inter-module presenters, particularly to assist in highlighting case studies in social innovation in Canadian contexts. In addition, they agree to support learning and skill development related specifically to social finance, social marketing, developmental evaluation, social entrepreneurship, political advocacy and scaling social innovations.

OUTCOMES

Graduates of the proposed Graduate Diploma in Social Innovation program are anticipated to significantly increase their capacity to perform strategically and innovatively within their professional roles in the private, public and social sector. This outcome will not only enhance the functioning of the government ministries, corporations and not for profit organizations, which in turn creates conditions for social innovation, but will also improve graduates’ degree of employable within multiple local, provincial and federal sectoral systems.
The program will provide 21st century education and skills to operate in highly complex environments; leadership increasingly in demand across all sectors of society. The cutting edge concepts and theories which graduates will have integrated within the required applied research projects will equip them with the ability to translate scientific information into practical policies, while the rare opportunity to interact with a diverse team representing three sectors will build capacity for strategic collaboration. This is a unique combination of highly sought after complementary learning, skills and experience that are not offered elsewhere to our knowledge. The program has been developed in consultation with major employers of these professionals who will be future graduates and experts from these will continue to inform and support learning within this program.

Enrolment and graduations

We expect to enrol 33 students per year, drawn from the private (@25%), public (@25%) and not for profit sectors (@50%) from across Canada. This number reflects design criteria supporting plans to split the cohort into three manageable team groups to collaborate on the problem domain focus areas. Teams of between 10 and 12 members have proven to be most effective in enhancing diversity, while also managing group dynamics.

Enrolment in Masters programs

Ideally, students completing the Masters Diploma in good standing would be able to apply to enter Masters programs at University of Waterloo. Discussions are ongoing as to the nature of the credit successful applicants would receive for their work in the diploma program, but we would hope to have course equivalency approved for most if not all of the core diploma courses, either as equivalent of relevant core or elective courses in some related full masters programs; e.g. Masters of Public Service, Masters of Business, Entrepreneurship and Technology, or Masters of Knowledge Integration (still in development). We feel this option may appeal to, respectively, public, private and not for profit graduates of the diploma. Discussions are continuing with campus partners.

Employment

We expect diploma graduates to return to their careers in the public, private and nonprofit sectors with renewed energy, new knowledge and strategic skill sets, and greatly increased capacity to apply knowledge to active interventions for social impact. We believe that the experience of diploma graduates will influence future career activities.

Publications

It is not expected that any publications will be produced by students of the graduate diploma, although it is expected that many students will produce professional reports related to their group projects back in their home organizations.

Projected graduate intake and enrolments

Planned enrolment is approximately 33 students per year over each of the next three years: 2011, 2012 and 2013. It is expected that the program will attract 25% public sector, 25% private sector and 50% not for profit professionals for each cohort of students.
University of Waterloo

Brief for the Periodic/Standard Appraisal of the
Master of Digital Innovation in the
Faculty of Arts, Stratford Campus

To be submitted to the Ontario Council on Graduate Studies 2010

VOLUME I: The Program

DRAFT for Senate
November 2010
THE PROGRAM

1. INTRODUCTION ............................................................................................................................. 3
1.1. Brief listing of program ....................................................................................................................... 3
1.2. Objectives of the program .................................................................................................................... 3
1.3. Method used for the self-study as well as the preparation of the brief .............................................. 9
1.4. Fields in the program (indicate recent changes if any) ........................................................................ 9
1.5. Review concerns expressed in previous appraisal and actions taken .................................................. 9
1.6. Special matters and innovative features ............................................................................................... 9

2. THE FACULTY ............................................................................................................................... 10
2.1. List of faculty by field ......................................................................................................................... 10
2.2. External operating research funding .................................................................................................. 12
2.3. Graduate supervision ......................................................................................................................... 13
2.4. Current teaching assignments ............................................................................................................ 14
2.5. Commitment of faculty members from other graduate programs and/or from other institutions .... 19

3. PHYSICAL AND FINANCIAL RESOURCES ............................................................................ 19
3.1. Library resources ............................................................................................................................... 19
3.2. Laboratory facilities ........................................................................................................................... 19
3.3. Computer facilities ............................................................................................................................. 19
3.4. Space .................................................................................................................................. 19
3.5. Financial support of graduate students .............................................................................................. 20

4. PROGRAM REGULATIONS AND COURSES ........................................................................... 20
4.1. The intellectual development and the educational experience of the student ................................ 20
4.2. Program regulations ........................................................................................................................... 22
4.3. Part-time studies ................................................................................................................................. 25
4.4. Total graduate courses listed and level .............................................................................................. 25
4.5. Collateral and supporting departments .............................................................................................. 28
4.6 Administrative structure .................................................................................................................... 28

5. OUTCOMES .................................................................................................................................... 29
5.1. Enrolment and graduations ............................................................................................................... 29
5.2. Employment ...................................................................................................................................... 29
5.3. Publications ................................................................................................................................ 29
5.4. Projected graduate intake and enrolments .......................................................................................... 29

Appendix A: Library Report .................................................................................................................. 31
1. INTRODUCTION

1.1. Brief listing of program

This brief describes a proposed professional Master’s degree program at the University of Waterloo’s Stratford Campus that leads to a Master of Digital Innovation (MDI).

1.2. Objectives of the program

1.2.1 General objectives

The broad objective of this program, which will be offered at the new Waterloo | Stratford Campus, is to provide a superior professional education for students seeking strategic careers in the digital media industry. Specifically, the program aims to equip future leaders, strategic thinkers, and team managers with the skills they need to innovate and thrive in this fast-evolving field. While the program will provide students with an appreciation for and experience with the basic technical skills of digital production and implementation, this is not its primary focus. Rather, the Master of Digital Innovation program will focus on developing broader capabilities in the areas of team, project, and product management and leadership in the digital media context. Working in teams throughout the program, and developing core projects in close consultation with both faculty and industry partners, students in the MDI program will graduate with an adaptable, transferrable, and highly marketable set of skills. Training in both the theory and practice of team building, business modelling, marketing strategy, critical/cultural analysis, and design thinking will position these MDI graduates to be able navigators in the complex and fast-moving digital media industry.

To summarize, the aims of the Master of Digital Innovation program are

- to participate in Ontario’s “Innovation Agenda” by preparing future knowledge strategists in the priority area of digital media;
- to introduce a needed alternative to Ontario’s existing graduate offerings in this area; and
- to build on the University of Waterloo’s (in particular Waterloo’s Stratford initiative’s) strong industry, public sector, and government partnerships by providing students with highly collaborative, connected, and experiential training that will transition them well into their careers.
1.2.2 Designation of the program

Careful consideration was given to the program (and degree) name. The designation “Master of Digital Innovation” was selected for several reasons.

First, the term “innovation” indicates that we intend to develop in students their capacity to think creatively, strategically, and knowledgably; that is, this is a program intended to produce “innovators.” The term “digital innovation” clearly indicates the program’s specific industry focus.

Second, the term “digital innovation” is inclusive, providing an umbrella for an interdisciplinary offering of courses supported by a range of departments and units both within the Faculty of Arts and, potentially, elsewhere on campus.

Third, a “Master of Digital Innovation” fits with the expectations held and qualifications sought by employers in the digital media industry when hiring technology officers, marketing strategists, digital producers, etc.

Fourth, the designation is flexible enough to accommodate future developments in the field—an important consideration given the fast-evolving, ever-morphing digital media sector.

Fifth, the term “digital innovation” indicates the extent to which the program builds on University of Waterloo strengths, namely, our ability to bridge all aspects of innovative thinking as they apply to the digital world, be it creating new experiences in the Arts, developing applications and interfaces that work, or formulating business success with digital technologies.

1.2.3 Distinctiveness of the program and comparison with existing programs

Similar programs at Waterloo

The proposed Master of Digital Innovation complements well two other graduate programs at Waterloo: the Master of Business, Entrepreneurship and Technology (MBET) program, based in the Faculty of Engineering’s Centre for Business, Entrepreneurship and Technology (CBET), and the proposed Master of Arts in English - Experimental Digital Media (XDM), based in the Faculty of Arts’ English Department. It also builds upon offerings in Anthropology, including special attention to business anthropology, design anthropology, visual anthropology, and the anthropology of globalization and digital media as they relate to strategic business praxis.

The highly successful Master of Business, Entrepreneurship and Technology program, now in its 7th year of operation, is a professional
graduate program that trains students for entrepreneurial careers in the high-tech sector. The 10-month MBET program features a multi-disciplinary slate of courses followed by a commercialization practicum in which student teams are challenged with the hands-on task of starting a technology business. Several of these student practicum projects have gone on to win national and international awards. The proposed MDI program draws inspiration from the MBET program; however, the MDI differs from the MBET program in three key respects. First, while the MBET focuses on innovation and entrepreneurship in technology in general, the MDI has a more targeted industry focus: digital media. Second, courses in the MDI place more emphasis on culture and design thinking/training, whereas the MBET curriculum leans more heavily towards finance, accounting and business. Finally, while the MBET practicum focuses very directly on the commercialization process (with students coached in starting a technology business), the MDI series of projects courses aim to foster a broader range of managerial and design skills more specifically suited to the digital media industry.

A second complementary program at the University of Waterloo is the English Department’s new Master of Arts in English - Experimental Digital Media (recently approved by OCGS). The XDM program builds on the English Department’s strengths in the areas of rhetoric and communication, and critical media studies. While also containing a strong projects focus, the XDM program is distinct from the proposed MDI program in several respects. The XDM program is discipline specific (housed in the English department), has a research/creation focus, and leads to an academic Master of Arts degree. The MDI program, on the other hand, is an interdisciplinary, professional degree that provides instruction in theory but emphasizes applied, career-oriented training.

**Similar programs in Ontario**

There are numerous digital media design programs offered at community colleges in Ontario (and across Canada). These programs teach methods and techniques for digital production (e.g., websites, video games, digital music, etc.). The Waterloo MDI program is sharply different from these programs. While it shares a strong hands-on dimension, the MDI assumes a degree of technical competency among its incoming students and focuses less on technical instruction and more on advanced training in digital innovation, contextualization, and development.

Another set of programs offered at business schools—Master of Business Administration (MBA) and Master of Management Sciences (MMSc) programs—resemble the MDI program in that they, too, provide advanced professional training in strategic thinking, entrepreneurship, and business.
The MDI’s specific digital media focus, its project-centric curriculum, and its culture/design stream of instruction, however, clearly distinguish it from the traditional MBA or MMSc. These MBA and MMSc programs are business programs with a media focus; the MDI is a digital media/innovation program with a business focus—something very different.

Two Ontario programs do, however, bear resemblance to the proposed MDI. The Ontario College of Art and Design (OCAD) in Toronto offers a Master of Design in Strategic Foresight and Innovation (MDes). Most students in this program are from a fine arts background seeking product management training as an avenue of professional development. This 2-year, part-time program is course-based and geared for working professionals (most courses are offered in the evening). Ryerson University also offers two Master’s programs with similarities to the MDI: an MBA in the Management of Technology and Innovation, and an MMSc in the Management of Technology and Innovation. The curricula for these 1-year (or 2-year, part-time) course-based programs focus strongly on business and management. OCAD’s and both of Ryerson’s programs have a very broad industry focus. While sharing similarities with these professional programs, Waterloo’s MDI differentiates itself from them because of its strong curricular emphasis on projects and experiential learning and its specific industry focus (i.e., digital media).

Similar programs outside of Ontario

Outside of Ontario, two programs in particular warrant special mention. The Great Northern Way Campus (UBC, SFU, Emily Carr, and BCIT) in Vancouver offers a Master of Digital Media program. As its promotional literature makes clear, this program emphasizes “digital innovation,” and it places a strong instructional focus on game design, where innovative programming is a core skill needed to deliver new experiences to online users. Approximately half of GNWC’s graduates go on to jobs in the games sector. As in the proposed MDI program—and probably even more so—the curriculum of the GNWC Master of Digital Design program places projects at the centre of the educational experience. The GNWC has experienced success in attracting students to and placing graduates from its professional program since its launch several years ago.

Another comparable projects-oriented design program is offered by California’s Stanford University. The Stanford University Institute of Design has developed a program jointly run by Mechanical Engineering and Fine Arts that focuses on Design and Product Design and aims at producing “future innovators.” The program emphasizes “design thinking” and the development of “innovation leadership skills.” While its industry focus is broader than that of the MDI, the Stanford program provides an excellent
example of what a rigorous professional graduate program in innovation and design looks like.

The success of both the Vancouver and Stanford programs in attracting students and placing them upon graduation encourages us that a similar program situated here in Ontario will be equally successful.

**TABLE 1: Comparison of MDI with existing programs**

<table>
<thead>
<tr>
<th>Location</th>
<th>Stanford, California</th>
<th>Vancouver B.C.</th>
<th>Toronto</th>
<th>Toronto</th>
<th>Waterloo (English)</th>
<th>Waterloo (CBET)</th>
<th>Waterloo, Stratford</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree</td>
<td>MFA /MSc</td>
<td>MBA/MMSc</td>
<td>MDes</td>
<td>MA</td>
<td>MBET</td>
<td>MDI</td>
<td></td>
</tr>
<tr>
<td>Program name</td>
<td>MFA in Design and MSc in Product Design</td>
<td>Master of Digital Media</td>
<td>MBA and MSc in Management of Technology and Innovation</td>
<td>Master of Design in Strategic Foresight and Innovation</td>
<td>MA in Experimental Digital Media</td>
<td>Master of Business, Entrepreneurship and Technology</td>
<td>Master of Digital Innovation</td>
</tr>
<tr>
<td>Length of program</td>
<td>2 yrs f/t</td>
<td>2 yrs f/t</td>
<td>1 yr f/t</td>
<td>2 yr p/t</td>
<td>1 yr f/t</td>
<td>10 months f/t</td>
<td>1 yr f/t</td>
</tr>
<tr>
<td>Annual cost to students</td>
<td>$24,920</td>
<td>$21,000</td>
<td>$16,238</td>
<td>$6,661 (PT)</td>
<td>$7,500</td>
<td>$27,819</td>
<td>tbd</td>
</tr>
<tr>
<td>Total tuition</td>
<td>$49,840 USD</td>
<td>$42,000</td>
<td>$16,238</td>
<td>$13,761</td>
<td>$7,500</td>
<td>$27,819</td>
<td>tbd</td>
</tr>
<tr>
<td>Full/Part</td>
<td>FT &amp; PT</td>
<td>FT only</td>
<td>FT &amp; PT</td>
<td>PT only</td>
<td>FT &amp; PT</td>
<td>FT only</td>
<td>FT only</td>
</tr>
<tr>
<td>Mode of delivery</td>
<td>Project /courses</td>
<td>Projects /courses</td>
<td>Courses</td>
<td>Courses</td>
<td>Projects /courses</td>
<td>Projects /courses</td>
<td>Projects /courses</td>
</tr>
<tr>
<td>Co-op /practica /project</td>
<td>4-month internship</td>
<td>Internship /MRP one of 3 options in final term</td>
<td>None</td>
<td>Co-op and internship option, plus Major Research /Creation Project (MRP)</td>
<td>2-month practicum</td>
<td>Strong team/projects focus in all courses, particularly the series of &quot;Projects&quot; courses</td>
<td></td>
</tr>
<tr>
<td>Industry focus</td>
<td>Design in arts and engineering</td>
<td>Digital media, with emphasis on gaming</td>
<td>Broad</td>
<td>Broad</td>
<td>Academic</td>
<td>Broad, with emphasis on engineering</td>
<td>Digital media</td>
</tr>
</tbody>
</table>

1.2.4 Waterloo | Stratford Campus: a choice venue for the program

The Master of Digital Innovation program will be housed and administered through the University of Waterloo’s Department of Anthropology and
delivered at the new Waterloo | Stratford Campus. An initiative led by UW Arts, the Waterloo | Stratford Campus will offer students in the MDI program a rich environment in which to pursue their studies. Well connected, with a long list of industry, government, research, and community partners, the Waterloo | Stratford Campus aims to carve out a new path in learning and career preparation:

Students will be immersed in a rich, technology-driven environment where theory and practice, science and commerce, creativity and innovation merge to forward digital media.

**Graduate and undergraduate programs** – For students the University of Waterloo – Stratford Campus promises small classes, project-based and client-driven assignments within a creatively dense atmosphere.

**Commercialization** – Working with industry partners, the Stratford Campus will connect independent content creators, digitizers, and disseminators to help bring new ideas and products to market.

**Community Outreach** – Working with local partners like the City of Stratford and the Stratford Public Library, the Stratford Campus is holding events such as Waterloo Lectures, Campus Updates and Noon Hour Library Club presentations.

Hub of events like the high-profile digital media forum Canada 3.0 (which it co-hosted in May 2010 with the Canadian Digital Media Network—see www.canada30.ca/home), Waterloo | Stratford Campus will provide students with unprecedented opportunities for industry networking and educational enrichment.

Further, while the MDI program will be administered by the Department of Anthropology and delivered in Stratford, other units at the University of Waterloo will indirectly contribute to the rigour and success of the program. Waterloo is home to the renowned **Cheriton School of Computer Science**, which is a vast resource for expertise in information technology and communication. In addition, Waterloo’s **Faculty of Engineering** boasts extensive expertise in electrical engineering, mechatronics, management science, architectural design, and entrepreneurship and technology. Participation in the MDI program from relevant individuals in these units may be explored, as appropriate, as the program develops.

**1.2.5 Projected employment of graduates from program**

Students graduating from the MDI program will be well positioned to pursue professional positions in the digital media industry as team managers, digital
designers, strategic marketers, market researchers, business entrepreneurs, strategic product managers, interaction designers, etc.

1.3. Method used for the self-study as well as the preparation of the brief, including faculty and student input and involvement

With establishment of UW Stratford well underway in the summer of 2009, it became clear that Waterloo had a timely opportunity to develop a professional graduate program that would complement and advance other developments taking place, like the establishment of the Stratford Institute and its aim of becoming a world-class "think-tank, integrator, and training institute devoted to collaboration between digital media, international commerce and culture." A multi-disciplinary curriculum committee was struck in September 2009 to explore the potential for such a program, to be based in the Faculty of Arts. Members of the committee included Ian Wilson, Director of the Stratford Institute, Bruce Muirhead, Associate Dean of Arts, Graduate Studies and Research, as well as faculty members from the departments of English Language and Literature, French Studies, Drama and Speech Communication, Anthropology, Political Science, History, and Economics. All members of the committee came with a research or teaching interest in digital media, and most with an affiliation with Waterloo's Canadian Centre of Arts and Technology (CCAT), Critical Media Lab (CML), and/or the undergraduate Digital Arts Communication (DAC) program.

Following a series of monthly brainstorming and planning meetings throughout the fall, a curriculum was developed and consensus reached concerning the shape and direction of the program. A formal OCGS brief was prepared in spring 2010 for review and approval by the Faculty of Arts Graduate Affairs Group, Arts Faculty Council, the UW Senate, and ultimately, the Ontario Council of Graduate Studies.

1.4. Fields in the program (indicate recent changes if any)

No fields have been defined for this program.

1.5. Review concerns expressed in previous appraisal and actions taken

Not applicable. This is a new program

1.6. Special matters and innovative features

There are two key features that distinguish the Waterloo Master of Digital Innovation from other similar programs, particularly within Ontario.

First, probably one of the most striking and attractive features of the proposed MDI program is its strong industry focus. The program offers students connection to the digital media industry in two ways. Most obviously, the curriculum has been
designed to give students direct exposure to real-world digital management, design, and innovation problems. By placing projects at the core of the curriculum (see Section 4.1), by generating these projects in consultation with digital media industry personnel, and by bringing these industry people in as guest speakers, course lecturers, and project consultants, the MDI program ensures that the training its students receive will be current and relevant, evolving alongside the industry itself. The very setting of the program also provides important opportunities for students to enrich their education and increase their industry contacts through participation in events like Canada 3.0.

Second, unlike many other digital media or technology and business programs, the Waterloo MDI program connects students to industry while at the same time maintaining a strong arts and culture focus. This, too, is amply evident in the curriculum, particularly in the “New Perspectives” course. Being based in the Faculty of Arts—and being delivered in the culturally-rich City of Stratford—will ensure that this cultural, social, and critical dimension in the program is maintained. In an era of social networking and strongly design-oriented tools like the iPad, such socio-cultural sensibility is increasingly a must for leaders in the field.

2. THE FACULTY

2.1. List of faculty by field

Core faculty for the MDI program are drawn from a range of departments and programs in the University of Waterloo’s Faculty of Arts: Anthropology, Digital Arts Communication, Drama, English Language and Literature, Fine Arts, French Studies, History, Political Science, Psychology, and Speech Communication. All of those listed here have some teaching or research expertise in the relevant areas of digital media, digital arts, and/or innovation, business, and management. Many have collaborated with companies like RIM, Quarry Integrated Communications, and Christie Digital in the course of their own research.

<table>
<thead>
<tr>
<th>Faculty Name &amp; Rank</th>
<th>M/F</th>
<th>Home Unit</th>
<th>Supervisory Privileges</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer ROBERTS-SMITH, Assist</td>
<td>F</td>
<td>Drama &amp; Speech Communication</td>
<td>Full</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### OCGS APPRAISAL BRIEF – Waterloo Master of Digital Innovation

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Title</th>
<th>Department</th>
<th>Supervisory Privileges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glenn STILLAR, Assoc</td>
<td>M</td>
<td></td>
<td>Drama &amp; Speech Communication</td>
<td>Full</td>
</tr>
<tr>
<td><strong>Category 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paul DOHERTY, Continuing</td>
<td>M</td>
<td></td>
<td>Waterloo</td>
<td>Stratford Campus</td>
</tr>
<tr>
<td>Gray GRAFFAM, Assist</td>
<td>M</td>
<td></td>
<td>Anthropology</td>
<td>Full</td>
</tr>
<tr>
<td>Kevin HARRIGAN, Assoc</td>
<td>M</td>
<td></td>
<td>Drama &amp; Speech Communication</td>
<td>Full</td>
</tr>
<tr>
<td><strong>Category 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenneth COATES, Full</td>
<td>M</td>
<td></td>
<td>History</td>
<td>Full</td>
</tr>
<tr>
<td>Karen COLLINS, Assist, CRC (Tier II)</td>
<td>F</td>
<td></td>
<td>Drama &amp; Speech Communication</td>
<td>Full</td>
</tr>
<tr>
<td>Colin ELLARD, Assoc</td>
<td>M</td>
<td></td>
<td>Psychology</td>
<td>Full</td>
</tr>
<tr>
<td>David GOODWIN, Assoc</td>
<td>M</td>
<td></td>
<td>Drama &amp; Speech Communication</td>
<td>Full</td>
</tr>
<tr>
<td>Carin HOLROYD, Assist</td>
<td>F</td>
<td></td>
<td>Political Science</td>
<td>Full</td>
</tr>
<tr>
<td>Christine McWEBB, Assoc</td>
<td>F</td>
<td></td>
<td>French Studies</td>
<td>Full</td>
</tr>
<tr>
<td>John MICHELA, Assoc</td>
<td>M</td>
<td></td>
<td>Psychology</td>
<td>Full</td>
</tr>
<tr>
<td>Jill TOMASSON GOODWIN, Assoc</td>
<td>M</td>
<td></td>
<td>Drama &amp; Speech Communication</td>
<td>Full</td>
</tr>
<tr>
<td><strong>Category 6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lois ANDISON, Assist</td>
<td>F</td>
<td></td>
<td>Fine Arts</td>
<td>Full</td>
</tr>
<tr>
<td>Randy HARRIS, Full</td>
<td>M</td>
<td></td>
<td>English Language &amp; Literature</td>
<td>Full</td>
</tr>
<tr>
<td>Aimee MORRISON, Assist</td>
<td>F</td>
<td></td>
<td>English Language &amp; Literature</td>
<td>Full</td>
</tr>
<tr>
<td>Marcel O’GORMAN, Assoc</td>
<td>M</td>
<td></td>
<td>English Language &amp; Literature</td>
<td>Full</td>
</tr>
<tr>
<td>Neil RANDALL, Assoc</td>
<td>M</td>
<td></td>
<td>English Language &amp; Literature</td>
<td>Full</td>
</tr>
</tbody>
</table>

1. This is the budget unit paying the salary: department, school, research centre or institute, or other.
2. Indicate the level of supervisory privileges held by each faculty member: e.g., full, master’s only, co-supervision only, etc., if applicable to your institution’s regulations or practices.
3. List faculty members under the categories suggested, as applicable (it is expected that some categories may not apply to your institution).

**Category 1**: tenured or tenure-track core faculty members whose graduate involvement is exclusively in the graduate program under review. For this purpose the master’s and doctoral streams of a program are considered as a single program. Membership in the graduate program, not the home unit, is the defining issue.
2.2. External operating research funding

Table 3 presents the external research funding received by the program by source and by year for the past seven years.

**TABLE 3: Operating research funding (7 years) by source and year**

<table>
<thead>
<tr>
<th>Year</th>
<th>Granting Councils</th>
<th>Other Peer Adjudicated</th>
<th>Contracts</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>$77,000</td>
<td>0</td>
<td>0</td>
<td>$4,400</td>
</tr>
<tr>
<td>2005</td>
<td>0</td>
<td>$70,000</td>
<td>$333,500</td>
<td>$21,200</td>
</tr>
<tr>
<td>2006</td>
<td>$7,000</td>
<td>$509,000</td>
<td>$177,200</td>
<td>$15,400</td>
</tr>
<tr>
<td>2007</td>
<td>$25,000</td>
<td>$52,000</td>
<td>$250,000</td>
<td>$45,900</td>
</tr>
<tr>
<td>2008</td>
<td>$301,704</td>
<td>$515,000</td>
<td>$330,000</td>
<td>$49,518</td>
</tr>
<tr>
<td>2009</td>
<td>$141,956</td>
<td>$58,750</td>
<td>0</td>
<td>$47,000</td>
</tr>
<tr>
<td>2010</td>
<td>$172,838</td>
<td>0</td>
<td>0</td>
<td>$8,000</td>
</tr>
<tr>
<td>Totals</td>
<td><strong>$725,498</strong></td>
<td><strong>$1,204,750</strong></td>
<td><strong>$1,090,700</strong></td>
<td><strong>$191,418</strong></td>
</tr>
</tbody>
</table>

**Calculation method:** Full amount of award included in year awarded (even if distributed over several years). PIs were assigned full amount, Co-PIs half, and CIs one quarter of total dollars. Only research grants and contracts have been tallied here; no infrastructure, conference, or travel grants have been included.

1. SSHRC (SRG, MBF, RDI, ITST) and NSERC (Discovery) grants.
2. Research grants from Heritage Canada, Statistics Canada, Canada Council for the Arts, the Mellon Foundation, the McConnell Foundation, the National Science Foundation (NSF), the Ontario Problem Gambling Research Council (OPGRC), and the Centre for International Governance Innovation (CIGI).
3. Research grants from the University of Waterloo UW/SSHRC Seed Grant Fund, 4A Incentive Fund, Humanities and Social Sciences Endowment Fund, and Learning Initiatives Fund (LIF).
2.3. Graduate supervision

Completed, and current, supervisorships of master's, doctoral, and post-doctoral students, by faculty member

| Completed and Current Numbers of Graduate Major Research Papers/Projects (MRP) and Thesis Supervisions by Faculty Member |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| **Member**      | **Completed**   |                | **Current**     |                |                |                |
|                 | **MRP**         | **Master's**   | **PhD**         | **MRP**         | **Master's**   | **PhD**         |
| **Category 1**  |                 |                |                 |                 |                |                |
| ROBERTS-SMITH,  | --              | --             | --              | --              | --             | --              |
| Jennifer        |                 |                |                 |                 |                |                |
| STILLAR, Glenn  | --              | --             | 4               | --              | --             | --              |
| **Category 2**  |                 |                |                 |                 |                |                |
| DOHERTY, Paul   | tbd             | tbd            | tbd             | tbd             | tbd            | tbd             |
| GRAFFAM, Gray   | 1               | 4              | --              | 1               | 2              | --              |
| HARRIGAN, Kevin | --              | 1              | --              | --              | --             | --              |
| **Category 3**  |                 |                |                 |                 |                |                |
| COATES, Ken     | --              | 10             | 12              | --              | 2              | 1               |
| COLLINS, Karen  | --              | --             | --              | --              | 1              | --              |
| ELLARD, Colin   | --              | 8              | 2               | --              | 1              | 2               |
| GOODWIN, David  | 42              | --             | 4               | --              | --             | --              |
| HOLROYD, Carin  | 2               | 1              | --              | 2               | 1              | --              |
| McWEBB, Christine| --             | 5              | --              | --              | --             | --              |
### Category 6

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICHELA, John</td>
<td>--</td>
<td>16</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>TOMASSON GOODWIN, Jill</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>ANDISON, Lois</td>
<td>--</td>
<td>3</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>HARRIS, Randy</td>
<td>--</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>MORRISON, Aimee</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>O'GORMAN, Marcel</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>3</td>
</tr>
<tr>
<td>RANDALL, Neil</td>
<td>--</td>
<td>10</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

1. If desired, columns (or an additional table) may be added to reflect the supervision of major research papers at the master’s level. Do not include supervisory committee activity in this table.

2. Faculty members should be listed under the categories specified in the footnotes to Table 1.

3. Faculty members who are involved in more than one graduate program should list the number of students supervised in the program under review and, in parentheses, the total number of students supervised in all graduate programs. (e.g., **Jill Goodwin** is currently supervising 1 Master’s student in the program under review and 5 in total.)

4. If there are different types of degrees (e.g., MA, MEd, PhD, EdD) separate categories should be added to the table.

[Comment on the data: e.g., As reflected in Table 3, [X%] of doctoral students’ supervision is carried out by regular faculty, as compared to [X%] by cross-appointed, adjunct, and [if applicable] clinical professors. This distribution is in line with the department’s policy that faculty members in categories a, b & c, are allowed to supervise a maximum of [X] master’s and [X] PhD students concurrently. For members in categories x, y & z, the limit is [X]. To be eligible to accept a new student for thesis supervision, a faculty member must be below the age of retirement at the anticipated date of completion by the student. [Explain any odd situation, e.g., very high number of students supervised by one professor.] [Comment on major research papers, if reported in Table]

2.4. **Current teaching assignments**

(Graduate and undergraduate), showing the number of courses taught by each faculty member

**TABLE 5a: Faculty teaching assignments, 2008/09**

<table>
<thead>
<tr>
<th>Teaching Assignments for 2008/09¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Member²</td>
</tr>
</tbody>
</table>

Category 1
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department</th>
<th>Category</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROBERTS-SMITH, Jennifer</td>
<td>Assistant</td>
<td>DRAMA 101A, 102, 306/406, 322/422, 371</td>
<td></td>
<td>New hire (tenure-track), 2008; No graduate program in Drama/Speech Comm</td>
</tr>
<tr>
<td>STILLAR, Glenn</td>
<td>Associate</td>
<td>DAC 202 (twice), 400 (twice)</td>
<td></td>
<td>No graduate program in Drama/Speech Comm</td>
</tr>
<tr>
<td>Category 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOHERTY, Paul</td>
<td>Continuing Lecturer</td>
<td>tbd</td>
<td>tbd</td>
<td>Director, Waterloo’s Centre for Business, Entrepreneurship &amp; Technology (CBET)</td>
</tr>
<tr>
<td>GRAFFAM, Gray</td>
<td>Assistant</td>
<td>ANTH 101, 300, 201, 400</td>
<td></td>
<td>Assoc Chair, Anthropology</td>
</tr>
<tr>
<td>HARRIGAN, Kevin</td>
<td>Associate</td>
<td>DAC 303, 304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COATES, Ken</td>
<td>Full</td>
<td>--</td>
<td>HIST 612, 691</td>
<td>Dean of Arts</td>
</tr>
<tr>
<td>COLLINS, Karen</td>
<td>Assistant CRC Tier 2</td>
<td>DAC 300, 301</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>ELLARD, Colin</td>
<td>Associate</td>
<td>PSYC 306</td>
<td>--</td>
<td>Assoc Chair, Psychology</td>
</tr>
<tr>
<td>GOODWIN, David</td>
<td>Associate</td>
<td>DAC 201, 400</td>
<td>--</td>
<td>Director, Research Commercialization in Arts (starting May 2009); Director, DAC; (ending May 2009); SSHRC course release; No graduate program in Drama/Speech Comm</td>
</tr>
<tr>
<td>HOLROYD, Carin</td>
<td>Assistant</td>
<td>PSCI 231, 490, 359 PSCI 685</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MarWEBB, Christine</td>
<td>Associate</td>
<td>FR354</td>
<td>FR611</td>
<td>On sabbatical, 2008</td>
</tr>
<tr>
<td>MICHELA, John</td>
<td>Associate</td>
<td>PSYC 340, 462 PSYC 884</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOMASSON GOODWIN, Jill</td>
<td>Associate</td>
<td>DAC 201, 300</td>
<td>--</td>
<td>Director of Research, Stratford Institute and NCE/CECR; SSHRC course release; No graduate program in Drama/Speech Comm</td>
</tr>
</tbody>
</table>
### TABLE 5b: Faculty teaching assignments, 2007/08

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANDISON, Lois</td>
<td>Assistant</td>
<td>FINE 222A, 222B, 228A, 228B, 328, 292</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HARRIS, Randy</td>
<td>Full</td>
<td>ENGL 306A, 306A DE, 309B, 409A</td>
<td>ENGL 793</td>
<td></td>
</tr>
<tr>
<td>MORRISON, Aimee</td>
<td>Assistant</td>
<td>ENGL 251A</td>
<td>ENGL 794</td>
<td></td>
</tr>
<tr>
<td>O'GORMAN, Marcel</td>
<td>Associate</td>
<td>ENGL 109, 392B, 408B</td>
<td>ENGL 794</td>
<td></td>
</tr>
<tr>
<td>RANDALL, Neil</td>
<td>Associate</td>
<td>ENGL 208A, 392A</td>
<td>ENGL 700, 793</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 5b: Faculty teaching assignments, 2007/08**

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROBERTS-SMITH, Jennifer</td>
<td>Assistant</td>
<td>DRAMA 102, 221, 314, 322/422, 490</td>
<td></td>
<td>New hire, 2008 (limited term appt and maternity leave during 07/08); No graduate program in Drama/Speech Comm</td>
</tr>
<tr>
<td>STILLAR, Glenn</td>
<td>Associate</td>
<td>DAC 202 (twice), 400 (twice)</td>
<td></td>
<td>No graduate program in Drama/Speech Comm</td>
</tr>
</tbody>
</table>

**Category 2**

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOHERTY, Paul</td>
<td>Continuing Lecturer (Engineering)</td>
<td>tbd</td>
<td>tbd</td>
<td>Director, Waterloo's Centre for Business, Entrepreneurship &amp; Technology (CBET)</td>
</tr>
<tr>
<td>GRAFFAM, Gray</td>
<td>Assistant</td>
<td>ANTH 101, 102, 201, 300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HARRIGAN, Kevin</td>
<td>Associate</td>
<td>DAC 303, 304</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Category 3**

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELLARD, Colin</td>
<td>Associate</td>
<td>PSYC 261, 306, 396</td>
<td>PSYC 707</td>
<td></td>
</tr>
<tr>
<td>Faculty Member, Rank, Undergraduate, Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOODWIN, David, Associate, DAC 201, 400; Director, DAC; SSHRC course release; No graduate program in Drama/Speech Comm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOLROYD, Carin, Assistant, PSCI 231, PSCI 490; New hire, Jan 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McWEBB, Christine, Associate, FR 351, 410; On sabbatical, 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MICHELA, John, Associate, PSYC 340, PSYC 884, 884 (Special Topics)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOMASSON, Goodwin, Jill, Associate, DAC 201, 300; Director, CCAT ; SSHRC course release; No graduate program in Drama/Speech Comm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANDISON, Lois, Assistant, FINE 222A, 222B, 228A, 228B; --</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HARRIS, Randy, Full, ENGL 306A DE, 309B, 392A; ENGL 701, 793</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MORRISON, Aimee, Assistant, ENGL 408C; ENGL 760, 794</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O'GORMAN, Marcel, Associate, ENGL 109, 320, 408B; ENGL 793</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RANDALL, Neil, Associate, ENGL 208A, 292, 392A; ENGL 794</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 5c : Faculty teaching assignments, 2006/07**

<table>
<thead>
<tr>
<th>Teaching Assignments for 2006/07</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1</strong></td>
</tr>
<tr>
<td>ROBERTS-SMITH, Jennifer, Assistant; New hire, 2008</td>
</tr>
<tr>
<td>STILLAR, Glenn, Associate; ENGL 306A, 306F, DAC 202 (twice), 400; No graduate program in Drama/Speech Comm</td>
</tr>
</tbody>
</table>

Page 17 of 33
### Category 2

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Course</th>
<th>Category</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOHERTY, Paul</td>
<td>Continuing Lecturer</td>
<td>tbd</td>
<td>tbd</td>
<td>Acting Director, Waterloo’s Centre for Business, Entrepreneurship &amp; Technology (CBET)</td>
</tr>
<tr>
<td>GRAFFAM, Gray</td>
<td>Assistant</td>
<td>ANTH 101, 102, 201, 300, 350</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>HARRIGAN, Kevin</td>
<td>Associate</td>
<td>DAC 303, 304</td>
<td>No graduate program in Drama/Speech Comm</td>
<td></td>
</tr>
</tbody>
</table>

### Category 3

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Course</th>
<th>Category</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>COATES, Ken</td>
<td>Full</td>
<td>--</td>
<td>--</td>
<td>Dean of Arts</td>
</tr>
<tr>
<td>COLLINS, Karen</td>
<td>Assistant</td>
<td>CRC Tier 2</td>
<td>--</td>
<td>New hire, 2007; No graduate program in Drama/Speech Comm</td>
</tr>
<tr>
<td>ELLARD, Colin</td>
<td>Associate</td>
<td>PSYC 306, 396, 461</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>GOODWIN, David</td>
<td>Associate</td>
<td>DAC 201, 400</td>
<td>--</td>
<td>Director, DAC; No graduate program in Drama/Speech Comm</td>
</tr>
<tr>
<td>HOLROYD, Carin</td>
<td>Assistant</td>
<td>--</td>
<td>New hire 2008</td>
<td></td>
</tr>
<tr>
<td>McWEBB, Christine</td>
<td>Associate</td>
<td>FR 192A, 192A, 410</td>
<td>--</td>
<td>Assoc Chair, French Studies</td>
</tr>
<tr>
<td>MICHELA, John</td>
<td>Associate</td>
<td>--</td>
<td>On sabbatical all year</td>
<td></td>
</tr>
<tr>
<td>TOMASSON GOODWIN</td>
<td>Associate</td>
<td>SPCOMM 223, 223, 431</td>
<td>--</td>
<td>On sabbatical part of year; No graduate program in Drama/Speech Comm</td>
</tr>
</tbody>
</table>

### Category 6

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Course</th>
<th>Category</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDISON, Lois</td>
<td>Assistant</td>
<td>--</td>
<td>--</td>
<td>New hire, 2007</td>
</tr>
<tr>
<td>HARRIS, Randy</td>
<td>Full</td>
<td>ENGL 306A, 306A DE, 306A</td>
<td>ENGL 701, 700</td>
<td></td>
</tr>
<tr>
<td>MORRISON, Aimee</td>
<td>Assistant</td>
<td>--</td>
<td>ENGL 760</td>
<td></td>
</tr>
<tr>
<td>O’GORMAN, Marcel</td>
<td>Associate</td>
<td>ENGL 392B</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>RANDALL, Neil</td>
<td>Associate</td>
<td>ENGL 292, 408A</td>
<td>ENGL 795</td>
<td></td>
</tr>
</tbody>
</table>

---

Provide separate tables for each of the three years preceding the appraisal.
8. Follow same categories as in Table 1.
9. Distinguish between graduate courses that form part of the graduate program under review and graduate courses that form part of other graduate programs.
10. Explain course value in note appended to Table, i.e., 3 credits means 3 contact hours per week for one term.

2.5. Commitment of faculty members from other graduate programs and/or from other institutions

This is an interdisciplinary graduate program with core faculty from a range of Arts departments and programs. With the exception of participating faculty from the Department of Drama and Speech Communication (which currently has no graduate program), core faculty listed here will participate in the MDI program alongside graduate programs in their own departments. As the MDI program develops, we may explore the possibility of inviting relevant faculty members from the University of Waterloo’s Faculty of Engineering and Faculty of Math to participate.

3. PHYSICAL AND FINANCIAL RESOURCES

3.1. Library resources

See Appendix A: Library Report

3.2. Laboratory facilities

While flexible classroom and meeting space will be sufficient to meet most MDI programming needs (see Section 3.4, below), students may require access to specialized digital media equipment for the Projects and/or Digital Media Solutions courses. This will be provided at the Waterloo | Stratford Campus.

3.3. Computer facilities

All faculty and graduate students are provided with an account on the university computer network. This account gives them access to electronic mail facilities, Internet, statistical software packages, scientific graphics, computer language compilers, a rich mathematical software library, etc. All students in the proposed MDI program will be provided access to computers and printers.

3.4. Space

The program will be delivered at UW’s new Waterloo | Stratford Campus, in a facility to be completed by 2012. In its initial year, the MDI program will be housed in temporary facilities in Stratford currently being leased by the University of Waterloo. The MDI curriculum committee was invited to contribute to discussions regarding the design of student space in the proposed new building. Given the diverse activities taking place in the program, and the emphasis placed on team collaboration, this MDI facility will ideally be open concept in design and flexible in use. A central meeting space will serve as the hub of instructional activity, with smaller rooms adjoining to
accommodate “breakout groups,” team meetings, and individual consultations. One of these rooms will be equipped with two-way mirrors to enable observation and analysis of team activity. Students will have access to computers and study space, with individual lockers to secure their belongings. A gallery/display/performance area will be made available to showcase student work to the public, as well as a coffee shop/cafeteria for networking and social interaction.

3.5. Financial support of graduate students

None. As a professional degree program, regular scholarship and internal UW student-support programs are not applicable.

4. PROGRAM REGULATIONS AND COURSES

4.1. The intellectual development and the educational experience of the student

The broad objective of the program is to provide a superior professional education for students who aspire to, or seek to advance, careers in the digital media industry. The Waterloo Master of Digital Innovation curriculum

- places projects at the heart of the curriculum to maximize experiential, solutions-oriented learning;
- ensures real-world challenges by drawing these projects directly from industry partners, and inviting them to participate in the student problem-solving process as consultants and coaches;
- is highly integrative, cultivating strong team-building skills to ready students for a highly collaborative workplace;
- assumes design thinking and socio-cultural awareness to be fundamental to digital innovation and hence highlights these elements in its program; and
- in turn, emphasizes an understanding of technology’s impact on culture and business.
Target students for the program will fall into two primary categories: 1) university graduates with industry experience, and 2) students with an undergraduate degree seeking to enter the digital media industry.

For university graduates with industry experience, the MDI program responds to a current gap in the digital media industry itself, providing a new and needed opportunity for career advancement. University graduates in the industry typically reach a point in their career development where an added qualification will help catapult them into a better paying job. Holders of MBAs have an edge on those jobs, at present, but they typically lack experience in digital media itself, and hence they tend to rely on standard business approaches. What is required is a professional graduate program that is tailored for the digital media industry. That is, a program is currently needed in Ontario that will provide advanced business training that gives special emphasis to team management, strategic marketing and digital design and production skills. The MDI curriculum is designed to fill this gap.

For new graduates with an interest in pursuing a digital media career, the MDI program will serve as an ideal stepping stone into the industry. Increasingly, there is a need to have specialized training if one hopes to be employed as a mid-level manager or higher in the digital media industry. Students with a B.Comm. degree will benefit from the program, as it will bolster their business and entrepreneurial skills with specific regard to digital media. Students with a B.A. degree in the arts will benefit from the program, as it will strengthen their background and skills in business management and marketing. Students with a B.Sc. degree in computer science or engineering will benefit particularly from the cultural and business/managerial aspects of the program.
Overall, the aim of the program is to enable students to reach their intellectual, educational, and professional goals as they transition into or seek to advance their career in the digital media industry.

4.2. Program regulations

Part-time studies

Although part-time studies might be considered in future, there are currently no plans to offer a part-time studies option for the initial years of the program.

Admission

Successful applicants must hold an Honours Bachelor’s degree with an overall average of at least 78% in the final 20 courses. We anticipate the overall average of successful applicants will exceed 80%. Applicants must supply three letters of reference, at least two of which must be from academic sources. Experienced professionals in the private or public sectors will be considered for admission on a case by case basis and may be required to complete additional coursework to qualify for the program.

Degree requirements

The Master of Digital Innovation program covers one full year. Students will enter in the fall term (September) and begin their studies with an intensive, one-week, “Digital Innovation Bootcamp.” Following this orientation to basic skills and principles, students will proceed to participate in two terms of projects-focused coursework (fall, winter). During their final term of study (spring/summer), students will direct all their energy towards a final projects course, which will enable them to further develop, finalize, and showcase the team projects begun earlier in the program. All courses in this program are mandatory. There are no electives.

**TABLE 6: MDI degree requirements and program structure**

<table>
<thead>
<tr>
<th>Term 1, Week 1 (fall)</th>
<th>Course</th>
<th>Credit</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI 600</td>
<td>.5</td>
<td></td>
<td>Digital Innovation Bootcamp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term 1 (fall)</th>
<th>Course</th>
<th>Credit</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI 611</td>
<td>.5</td>
<td></td>
<td>Projects 1</td>
</tr>
<tr>
<td>DI 612</td>
<td>.5</td>
<td></td>
<td>Working in Teams 1</td>
</tr>
<tr>
<td>DI 613</td>
<td>.5</td>
<td></td>
<td>Digital Media Solutions 1: Design Principles and Practice</td>
</tr>
<tr>
<td>DI 614</td>
<td>.5</td>
<td></td>
<td>Principles of Marketing in a Globalized World: Leveraging Digital Technology</td>
</tr>
<tr>
<td>DI 615</td>
<td>.5</td>
<td></td>
<td>New Perspectives: Media History and Analysis</td>
</tr>
</tbody>
</table>
Progress reports

There is no thesis option for this professional Master’s program. Therefore, no research progress reports will be required.

Project evaluation procedures

Team projects are at the heart of the MDI curriculum. Students will work in teams of 5-7 students throughout the program in a series of three Projects courses. Other courses in the program will contribute directly to the projects underway, sequencing instructional material in such a way that student teams will be equipped to meet the challenges of idea generation, selection, development, prototyping, launch and delivery.

Given this focus on team projects, evaluation procedures in the MDI program’s Projects courses will diverge somewhat from those typically used in traditional academic graduate programs. While individual grades will, indeed, be given in most of the courses, in the Bootcamp course, and in the series of three Projects courses, an alternate evaluation process will be adopted.

The Bootcamp and Projects courses, which unlike the other courses will be graded on a Credit/No Credit basis, will be evaluated according to the success of the project on a number of grounds:

1. **Student contract:** At the outset of a project, each student will be consulted in framing a written contract regarding their intended role in the project, and expectations for measuring their areas of responsibility; such contracts will be honed to each student in terms of their background and their intended area(s) of focus in the program, e.g. marketing, prototyping, etc. This contract serves as an evaluative instrument later, when measuring the success of the student relative to the project. Each written contract will be signed by the student and the instructors of the Project 1, 2, and 3 courses.

2. **Group contract:** Using the student contracts, a written group contract is drafted summarizing each student’s expected contribution, which each student also
signs. The group contract also points to a dispute resolution mechanism, in case of disagreements among group members. Each member of the group signs the group contract. Should the group contract change significantly over the project duration, a revised group contract will be signed by all students continuing in the group. A procedure will be available should individual students not wish to, or be able to, continue with their original group. In the event of irresolvable differences within groups, the faculty/coaches will have the authority to re-form the group and to offer the alternative for individual work and individual assessment, if all other feasible alternatives have been exhausted. Each group contract is also signed by the instructors of the Project 1, 2, and 3 courses.

3. **Assessments (360°):**
   a. **Self assessment:** At various stages in the project (ideally, the end of each term), written self assessments will be collected. Instruments for self assessment will be based on project responsibilities and the degree to which a student believes he or she has fulfilled his or her “contractual” responsibilities to the group and the project.
   b. **Peer assessment:** At various stages in the project (as above), written peer evaluation will be collected. Instruments for peer evaluation will be based on each project’s progress, and students’ assessment of how specific areas of his or her project are proceeding. These written evaluations tie to areas of individual and group responsibility. Results of the peer assessments are reviewed by faculty, and shared with students individually, with written comments being shared anonymously.
   c. **Faculty assessment:** At various stages in the project (as above), faculty and project coaches will be asked to provide a written assessment of each student’s performance, as it pertains to each student’s individual and group contract. Written results of faculty and coach assessments will be shared with students individually, with an opportunity for student response.

4. **Final showcase and presentation:** Each project will be shared in a final showcasing of year-end results. Showcases and presentations will be evaluated on a range of criteria pertaining to professionalism, clarity, originality, and problem solving.

The above evaluative steps will be used to assign Credit/No Credit in each of the Projects courses throughout a student’s performance in the program. The evaluative procedures are intended to provide constructive feedback that will benefit the student in the completion of their work, to improve the outcome and experience provided by each project, and to provide a set of learning experiences that will transfer to the workplace post degree. These evaluative measures are also meant to insure that each student will have completed a core part of the program’s requirements, and also to
resolve tensions and differences that emerge through teamwork, project-based performance.

These evaluative procedures are enveloped within Digital Bootcamp, and Projects 1, 2, and 3, and are the responsibility of faculty offering those courses.

If at any point a particular student is assessed as performing unsatisfactorily, he or she will not be given credit for the course and may be asked to withdraw from the program.

Language requirements

None.

Distance delivery

This program will be offered on site only. There are no plans for distance delivery at this point.

4.3. Part-time studies

Although part-time studies might be considered in future, there are currently no plans to offer a part-time studies option for the initial years of the program.

4.4. Total graduate courses listed and level

**DI 600: Digital Innovation Bootcamp** (first week of fall term, .5 credits) CR/NCR
This intensive week-long workshop will be skills oriented and project focused. Following a day-long simulation exercise to introduce the dynamics of working in teams, students will review the technical essentials of digital media production and be given a primer in the techniques of critical and cultural analysis. Students will then have an opportunity to try out their new team skills and technical/analytical toolkit in a group project. Projects will vary from year to year, but students might, for example, be asked to design and develop a simple website that embodies a particular set of cultural codes. Goals of the Digital Innovation Bootcamp are 1) to establish a shared vocabulary of technical and analytical terms that will serve as a foundation for the rest of the program, 2) to introduce students to the program’s strategy of using team projects as a key vehicle for learning, 3) to provide an opportunity for class assessment, enabling students to identify their own strengths and weakness, and allowing faculty to tailor the curriculum as needed, and 4) to create a forum in which students can very quickly get to know each other and gel as a class.

**DI 611 Projects 1** (fall term, .5 credits) CR/NCR
Projects are at the heart of this digital innovation program. Working in small teams (of 5-7), students in this course will be challenged to address all facets of a digital media project (i.e., technical, cultural, managerial, legal, etc.) as they work through
the stages of idea generation, selection, development, prototyping, launch and delivery. Projects will be identified in collaboration with industry partners, who will participate in consultation and coaching of teams. Material taught in the program’s other courses will be sequenced to complement and contribute to the core team project conducted here.

**DI 612: Working in Teams I** (fall term, .5 credits)
This course will cover the three key skill areas for working in teams: communicating, differing and facilitating. To master the art of managing and participating in high performing, problem-solving teams, team members must be aware of both their own and others’ strengths and weaknesses when working in teams. They must also be aware of the dynamics of teams throughout the phases of a problem-solving cycle. Theory on teams and on team development will be introduced, as well as the particulars of working in teams on early-stage innovation projects. The course will then focus on deepening and practicing relevant skills. It will begin with a self-assessment of personal capacities and of the distribution of skills in the team as a whole. Following this, it will focus on deepening skills in a sequence which shadows the phase of the project on which the teams are working. Students will be trained in the skills of reflective listening, problem identification and analysis, supportive listening and facilitation, creative brainstorming and alternatives generation, constructive differing and choice, idea development and presentation, and team process evaluation. The format of the course will combine short lectures with experiential skill-building exercises. Coaches assigned to each team will support individual and team learning.

**DI 613: Digital Media Solutions I: Design Principles and Practice** (fall term, .5 credits)
In this course, students will explore the principles of digital designs in terms of their visual design components (space, line and shape, tone, colour, movement, and rhythm) and the functions they perform in various forms of digital content production (images, video and film, sound, and animation). Students will receive hands-on training in digital image, video, and sound production by engaging in a complete production cycle from conceptualization, through to production and post-production. To situate their practices within the wider social, cultural, and economic contexts of digital design, students will also learn an explicit theoretical vocabulary for exploring, explaining, critiquing, and evaluating their design practices.

**DI 614: Principles of Marketing in a Globalized World: Leveraging Digital Technology** (fall term, .5 credits)
The objectives of this course are to provide students with a firm understanding of market strategy and the techniques used for marketing in a globalized context. Over the past decade, marketing has embraced a broad set of online tools that have revolutionized and revitalized an approach to the marketplace, including blogs, online news releases, social media, streaming video, and viral marketing strategies, among others. This course aims to instruct students in two primary, fundamental areas of
marketing: (1) basic principles of marketing, which includes market segmentation strategies, the use of marketing channels, how to develop promotion and pricing strategies, and how to develop competitive advantage, and (2) how to leverage technology-driven, digital media for achieving marketing goals. Students will learn through various examples of marketing problems, and they will learn to apply these principles within the context of a problem-oriented approach. A secondary but also important set of learning outcomes of the course is an understanding of the rewards of global marketing, social responsibility, and the benefits of a global vision in setting business goals.

**DI 615: New Perspectives: Media History and Analysis** (fall term, .5 credits)
The objectives of this course are twofold: first, students will engage in an analysis of the history of media in its various manifestations (particularly digital media). They will also explore the multiple dimensions of media archaeology from the mid-twentieth century to the present by studying the interaction of various media aggregators (such as Google, iTunes, YouTube, handheld and gaming devices, etc.) and their impact on the societies and social groups that use them. Second, students will receive training in the critical analysis of these media through the use of conceptual tools such as semiotics, cultural criticism, discourse analysis, visual anthropology and others.

**DI 621: Projects 2** (winter term, .5 credits) CR/NCR
This course is a continuation of Projects 1.

**DI 622: Working in Teams 2** (winter term, .5 credits)
This course is a continuation of Working in Teams 1.

**DI 623: Digital Media Solutions 2: Project Management** (winter term, .5 credits)
This course will focus on managing production processes and resources for digital media projects, from initial planning and budgeting through the management of milestones, tasks, personnel, technical resources, and delivery. Students will receive hands-on training in initiating and tracking individual tasks within the overall structure of the project, learning how to adjust for change in project needs and available resources. This practical knowledge will combine an ongoing understanding of project management concepts and techniques, along with the use of project management software, to inform and guide the project undertaken in Digital Media Solutions 1: Design Principles and Practice.

**DI 624: Understanding the Consumer Universe: Market Research in Digital Media**
(winter term, .5 credits)
Understanding the consumer universe in ways that can lead to business success is a vital goal of market research, and a core component of business anthropology. This course instructs students in the key methods of exploratory and confirmatory research for understanding consumer behaviour. Students are instructed in the qualitative methods of market ethnography, where they learn how to develop the tools to
recognize business opportunity through interviews, focus groups, and personal observation. Students are also instructed in the quantitative methods of market survey, where they learn how to measure the potential of business opportunity through sampling with consumer polls, questionnaires, and combined research strategies. Students will gain an understanding of the “do’s” and “don’ts” of market research, particularly in terms of how gaining insight in consumer needs and behaviours can influence important business decisions.

**DI 625: Media Innovation and Impact** (winter term, .5 credits)
Changing media have a profound impact on our economy, governance, and community life. Our institutions, our approaches to economic and cultural development, and traditional business models are challenged to adapt to the realities of an information-rich, technology-enabled society. This course will provide a survey of the broad implications of evolving technology through research and case studies focusing on personal, institutional, and political choices. Students will learn about the policy and social context (regulatory, copyright, privacy, industrial incentives) of innovation in an anthropological, globalized context, and will explore in depth varying social responses to innovation, from outright rejection, to benign neglect, to viral adoption. Drawing on recent examples, students will address practical issues of business and institutional transformation as the digital world emerges.

**DI 631: Projects 3** (spring/summer term, 1.5 credits) CR/NCR
This final projects course will serve as the culmination of work started in Projects 1 and 2. Here, student teams will work intensively on their project, applying lessons learned during the other courses and working closely with industry consultants and coaches to bring their project to the stages of delivery and implementation. Students will be given an opportunity to publicly showcase their work at the end of term.

4.5. **Collateral and supporting departments**

This is an interdisciplinary professional program offered at UW’s Waterloo | Stratford Campus by the UW Faculty of Arts. Core faculty members for the MDI program are drawn from the Departments/programs of Anthropology, Drama, Digital Arts Communication, English Language and Literature, Fine Arts, French Studies, History, Political Science, Psychology, and Speech Communication.

4.6. **Administrative structure**

Program participant Gray Graffam (Anthropology) has been appointed the inaugural Director (effective January 1, 2011) for the MDI program. In addition to teaching in the program, Graffam will, as Director, oversee the hiring of administrative staff, the recruitment of students, the assignment of course instructors, and the overall delivery of the program. As well, he will perform the crucial task of liaising with industry partners, working with them to generate suitable projects for students to undertake in the series of Projects courses.
Immediately upon approval of the program by OCGS, an Industry Advisory Group comprised of leaders in the digital media industry will be established. This Industry Advisory Group will be vital in ensuring the program stays relevant and up-to-date in preparing workers for a fast-moving industry. As well, the Industry Advisory Group will be a key mechanism for maintaining and expanding the program’s network of industry partners and supporters.

An Academic Advisory Group will also be established. This Academic Advisory Group will include representation from all academic units participating in the program. The Academic Advisory Group will be charged with overseeing and ensuring the academic integrity of the program.

The MDI Program will be administered through the UW Department of Anthropology.

5. OUTCOMES

5.1. Enrolment and graduations

Not applicable. This is a new program.

5.2. Employment

Not applicable. This is a new program.

5.3. Publications

Not applicable. This is a new program.

5.4. Projected graduate intake and enrolments (for next seven years)

We plan to admit 25 MDI students in the first year of the program (fall 2011) and gradually increase enrolment by approximately 5 students each year. The program cap over the longer term will be 40, possibly 50 students.
<table>
<thead>
<tr>
<th>YEAR</th>
<th>FULL-TIME</th>
<th>PART-TIME: n/a</th>
<th>TOTAL ENROLMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intake</td>
<td>Enrolments</td>
<td>Intake</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>30</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 7: Projected intake and enrolments**
APPENDIX A:
Library Report

The following is a general description of the information resources that the University of Waterloo (UW) Library would be able to provide to support of the proposed Master of Digital Innovation (MDI) program. The description was prepared by Sandra Keys, Liaison Librarian for Accounting & Finance, Business & Entrepreneurship, and Economics.

Information Resources

Material would be collected to support learning, teaching, and research to the Master’s level in Digital Innovation with emphasis on the following areas:

- Anthropology (Design Anthropology, Business Anthropology)
- Communication and Culture
- Computational Linguistics
- Criticism
- Digital Media
- Discourse Analysis
- Entrepreneurship/Technical Innovation
- Information Technology
- Project management
- Rhetoric
- Science of Language
- Semiotics
- Teamwork
- Telecommunication

These areas already receive a high level of library support for existing programs including English Language and Literature, Accounting and Finance, Economics, Psychology, Sociology, Fine Arts, Engineering, and Computer Science.

Due to the interdisciplinary nature of this program, the decision to purchase Library materials for the MDI program would be the responsibility of the Liaison Librarians for the aforementioned programs. Materials would be obtained in a variety of ways including firm orders, open orders, approval plans, and subscriptions.

The Library’s print collections that would be of interest to students in the MDI program are housed both in the Dana Porter Library and in the Davis Centre Library. Access to the entire Library collection, as well materials held by UG and WLU, is available through the web accessible search tool, Primo (http://primo.lib.uwaterloo.ca).

The Library obtains resources in electronic format whenever it is possible and practical to do so. Some electronic resources are obtained directly by the University of Waterloo Library and some are obtained through membership in the Ontario Council of University Libraries (OCUL) and the
Canadian Research Knowledge Network. Access to, and use of, electronic resources is generally governed by licence agreements with the publisher or vendor.

**Monographs and Journals**

The UW Library collection includes approximately 42,700 print monographs relating to the study of Digital Innovation, including criticism, entrepreneurship, information technology, mass media communication, project management, rhetoric, semiotics, sociology, and technology. For the most part, the monographs are in print, but an increasing number are in electronic format, including Safari Tech Books Online and the Emerald e-books collections.

The Library collection also includes a considerable number of print and electronic journals. An increasing number of e-journals are being made available through large e-journal packages. E-journal packages relevant to Digital Innovation include:

- Adam Matthew Digital
- IEEE/IEE Digital Library
- JSTOR
- Sage Publications
- SpringerLink

The UW Library, along with the libraries of the University of Guelph (UG) and Wilfrid Laurier University (WLU), form the Tri-University Group of Libraries (TUG) consortium. Collections from the UG and WLU enhance the depth and breadth of local materials available in subject areas of interest to scholars involved in the Digital Innovation program.

**Research Databases**

The UW Library has purchased or subscribes to a range of electronic resources including research databases. The following are some of the research databases that would be of particular interest to the MDI program:

- ABI/INFORM
- ACM Digital Library
- Alternative Press Index
- Business Source Complete
- Humanities Full Text
- Linguistics and Language Behavior Abstracts: LLBA
- MIT CogNet: the brain sciences connection
- MLA International Bibliography
- PsycINFO
- Scopus
- Social Sciences Full Text
- Sociological Abstracts
- Web of Science (ISI Web of Knowledge)
Statistics and Numeric Data

Also available to members of the UW academic communities are the data holdings of the TriUniversity Data Resources (TDR) (http://tdr.uoguelph.ca/) and <odesi> (http://search2.odesi.ca/), which provide Web access to resources such as the Statistics Canada surveys, including the Canadian Census. <odesi> also provides access to public opinion polls, including those from Gallup Canada. Access is also available to the data holdings of the Inter-university Consortium for Political and Social Research (ICPSR) in Ann Arbor, Michigan (http://www.icpsr.umich.edu/icpsrweb/ICPSR/).

Access to Electronic Resources

The primary tool for accessing electronic resources selected by the Library is its Web site (http://www.lib.uwaterloo.ca). This site organizes and provides access to licensed resources available to only UW faculty, students, and staff, as well as Internet resources freely available to anyone. The site also provides access to electronic resources hosted by the OCUL Scholars Portal program (http://www.scholarsportal.info/index.html) and available to the UW community through the Library's participation in consortia purchasing through OCUL.

In addition, many of our electronic resources can be found through a search of Google Scholar (http://scholar.google.com/).

The Library uses linking technology (SFX) to enable users to link directly from research databases to the UW Library full text electronic journal subscription or to the Primo record for holdings and call number information. The Library also provides access to bibliographic management software (RefWorks).

UW faculty, students, and staff may access electronic resources from off-campus via the Library's “Connect from Home” feature.

Financial Support

Library support for this program would come from existing allocations for print resources for various programs (e.g., Accounting and Finance, Economics, Psychology, Sociology, English, and Fine Arts) as well as from a central Electronic Resources fund which is used to support all programs. Over the past two years, over $107,000 worth of books purchased for the library collection have potential relevance to the MDI program.

Prepared by Sandra Keys,
Liaison Librarian, Accounting & Finance,
Business & Entrepreneurship, and Economics,
Dana Porter Library, University of Waterloo,
April 2010
To: Feridun Hamdullahpur  
From: Lois Claxton  
Subject: Senate  
Date: November 26, 2010

Senate by-law 1, Business and Affairs of the Senate, is attached.

Following from Senate's November 15 meeting, I'd like to suggest that the Senate Executive Committee review By-law 1 and consider the following procedural practices for the regular meetings of the Senate:

- general conduct of meetings will follow the rules and procedures set out in Bourinot's Rules of Order, latest edition
- meetings will start at 4:00 p.m.; first order of business will be quorum [note: any Senator can, at any time, question quorum]
- at 6:45 p.m. [earlier?] the Secretary will advise the chair to ask for a motion re: a 15 minute extension and to continue to put the motion to Senate at 15 minute intervals
- after the agenda has been set by the Senate Executive Committee, any items introduced under 'other business' will normally be for information or for discussion and not for decision
- all motions before Senate will be available to Senators, in writing
Senate Bylaw 1

A bylaw relating generally to the business and affairs of the Senate of the University of Waterloo.

BE IT ENACTED as a bylaw of the Senate of the University of Waterloo, as follows:

DEFINITIONS

1. In this bylaw,
   a. "academic year" year means the twelve-month period dating from May 1st of one year to April 30th of the succeeding year.
   b. "Senate" means the Senate of the University of Waterloo.

MEETINGS OF THE SENATE

General Meetings

The Senate shall normally hold nine (9) general meetings during each academic year. The date and time of such meetings shall be established by the Senate, and such date and time shall be published in the University calendar.

Place of Meetings

Meetings of the Senate shall be held upon the campus of the University.

Notice of an agenda and background material for general meetings

Notice in writing of each general meeting and the agenda and available background material with respect to non-confidential matters, for any such meeting, shall be sent by post to or delivered to all members of the Senate at least seven (7) days prior to the date of each such meeting. Meetings of the Senate shall be held upon the campus of the University.

Special Meetings

a. Special meetings of the Senate shall be called by one of the following:
   i. The Chair of the Senate, upon the receipt of a request of the Executive Committee for such meeting, or,
   ii. The Secretary of the Senate, upon receipt by the Secretary of a written request for such meeting signed by at least twenty members of the Senate, such request to state the reason for the calling of the special meeting.

b. Special meetings shall be called promptly.

c. Notice in writing of each special meeting, together with the agenda and available background material with respect to non-confidential matters, shall be sent by post to or delivered to each member of the Senate in accordance with paragraph 7 hereof, at least seven (7) days prior to the date of the meeting,
provided that the Chair of the Senate shall have the power and authority to abridge such seven-day period when, in his absolute discretion, the urgency of any item of business to be dealt with at such meeting so requires.

d. Notice in writing of each special meeting shall be displayed on the University campus in such places as may be designated from time to time by the Senate.

Quorum

At all meetings of the Senate, a majority of the members of the Senate shall constitute a quorum for the transaction of the business and affairs of the University.

Persons entitled to be present

a. All general and special meetings of the Senate, subject to the provisions of subparagraph (b) (1), hereof, shall be open to members of the University community, the public-at-large, and representatives of the news media. Senate will make every effort to hold its meetings in a room sufficiently large to accommodate those who indicate, two full working days in advance of the meeting, their desire to attend.

b.

1. Admittance to all meetings of the Senate, by members of the University community and by the public-at-large shall be by way of passes which shall be available at the office of the Secretary of the Senate, the number of passes to be made available to the commensurate with the physical space available for any such meeting. If at the commencement of the meeting, space remains available, members of the University community and of the public-at-large, will be admitted to the meeting on a first-come basis, and any rights to attendance by means of passes distributed not exercised at that time shall be waived.

2. Non-Senate members in attendance at meetings shall observe the rules of decorum established by the Senate.

c.

1. The Senate, notwithstanding the provisions of the preceding paragraphs, and provided that all meetings shall begin in open session, shall have the right to hold any meeting or part thereof in closed session and to exclude therefrom all persons, save for the Senate members and such resource persons as Senate may agree should be in attendance, for the purpose of considering confidential financial matters of the University or where intimate financial or personal matters of any person may be disclosed, unless such person requests that such part of the meeting be open to the public.

2. The Executive Committee shall determine for purposes of the agenda, whether any matter is of a confidential nature and such matter shall be so designated on the agenda for such Senate meeting and shall be designated and described in a manner consistent with maintaining the confidentiality of such matter.

3. The Senate shall initially deal with any such confidential matter in closed session, but, after receiving the pertinent information, relative to the confidential matter, may direct that the matter be thereupon considered in open session.

Secretary of Senate

The Secretary of the University or designate shall be the non-voting Secretary of Senate.
Senate Graduate & Research Council met on November 15, 2010 and agreed to forward the following items to Senate for information and approval.

Further details are available at: wwwadm.uwaterlooca/infosec/Committees/senate/sgrc.htm

FOR APPROVAL

CLOSURE OF CENTRE

Centre for Advanced Studies in Finance

1. **Motion:** To approve closure of the Centre for Advanced Studies in Finance.

   **Rationale:** After meeting with people involved with the centre, including the founding director, Phelim Boyle, the current director, Adam Kolkiewicz of the Department of Statistics and Actuarial Science, decided not to seek renewal of the centre’s mandate for a further five-year period. The centre was once the only entity at the university encompassing research activities related to modern finance; however, WatRISQ has gradually taken over most of the centre’s research.

FOR INFORMATION

RENEWAL OF CENTRES AND INSTITUTES

Centre for Pavement and Transportation Technology (CPATT)

Founded in 2005, CPATT is directed by Susan Tighe, and provides leadership in promoting and encouraging research and related activities in the pavement and transportation field. It facilitates interdisciplinary research by establishing links within and outside the university as appropriate, but is primarily located in the Department of Civil Engineering.

Research sites include the central CPATT Test Track located at the Region of Waterloo Waste Management Facility, which has been expanded over the last five years, and is the only test track of its kind in Canada as it contains several different pavement types. Members also make use of more than 50 additional test sections across Canada.

CPATT’s board of advisors, which represents a three way partnership between the university, public and private sectors, meets twice yearly to discuss research themes and initiatives. Members have been active in collectively pursuing external research funding and are interested in pursuing a major collaboration grant over the next five years. In addition, the centre hopes to launch a newsletter to transfer research findings, and to design a new website that will highlight current research and provide information to interested sponsors.

Noting that the centre has been extremely active, council approved its renewal for a five-year term (December 2010 – November 2015) on behalf of Senate.
Institute for Polymer Research (IPR)

IPR, whose 13 academic members come from chemistry, chemical engineering and mechanical engineering, is one of the longest-serving institutes at the university. It was founded as a research group in 1978, with official recognition as an institute in 1984. Alex Penlidis has served as director for the past 16 years, but will soon be stepping down; a committee will work to select a new director starting May 1, 2011.

IPR has developed a global reputation offering services to the polymer industry and providing graduate research training in the field of polymer science and engineering. It engages in a tremendous amount of interaction with students, including from other faculties and institutions, and has cultivated an impressive industrial membership that “seeds” interactions with academic members and students. It also organizes seminars, intensive short courses and an annual symposium relating to polymeric materials.

While the membership is tightly focused, the IPR has expanded its activities considerably over the last five years and new initiatives have been developed with other groups, including optometry, civil engineering and electrical engineering. In 2009, one of the senior academic members successfully commercialized a technology for creating a unique polymer from scrap tires using a new way to devulcanize rubber. Over the next five years, IPR intends to create a polymeric materials property characterization facility and commence new interactions with researchers in areas of novel polymeric material applications including: optometry, pharmacology, dentistry, biodegradables, bioplastics, drug delivery, rubber modification, nano-composites and automotive materials.

Suggesting that the institute might consider broadening its research base to include new areas of activity around polymeric materials that are present within the university, council approved its renewal for a five-year term (December 2010 – November 2015) on behalf of Senate.

ESTABLISHMENT OF RESEARCH GROUP

Council received notice of the establishment of the French Missions Research Group (FREMIR) with Guy Poirier of the Department of French Studies as founding director.

CURRICULAR MODIFICATIONS

On behalf of Senate, council reviewed and approved curricular modifications for the Centre for Teaching Excellence (new milestone), and the Faculties of Arts (global governance), Environment (geography, planning), Mathematics (computer science, mathematics for teachers), and Science (physics).

SCHOLARSHIPS AND AWARDS

On behalf of Senate, council approved creation of the Curwin Friesen/Tim Jackson MBET Scholarship (trust). Council heard that additional funds have been added to the Tim Jackson MBET Scholarship (trust) and from the McCall MacBain Foundation to the David Johnston International Experience Awards (endowment); and that a letter of direction has been received re: the Sharon and David Johnston Graduate Award, and the Sharon and David Johnston Graduate Award in Microfinance.

ADMINISTRATION OF GRADUATE STUDIES

Council reviewed proposed Guidelines for Internal Readers for Academic Program Reviews. The guidelines will be used to facilitate council’s assessment of graduate programs consistent with the recommendations of the Ontario Universities Council on Quality Assurance and the Guidelines for Reviews of Ongoing and New Academic Programs at the University of Waterloo.

lew  George Dixon  Sue Horton
Vice-President, University Research  Associate Provost, Graduate Studies
Senate Undergraduate Council met on November 9, 2010 and agreed to forward the following items to Senate for approval and information, as indicated below [further details may be obtained at: www.secretariat.uwaterloo.ca/Committees/senate/ugc.htm].

FOR APPROVAL

CALENDAR DATES
With respect to the academic calendar dates for 2011-12 approved by Senate at its November 15, 2010 meeting, the registrar advises that the pre-examination study days in winter 2012 must change from April 3-6 to April 3-8 to accommodate Holy Saturday on April 7, 2012.

1. Motion: Council recommends approval of the revised 2011-12 calendar dates as provided in attachment #1.

AEGROTAT DEGREES

2. Motion: Council recommends approval of the requirements and procedures with respect to aegrotat degrees as provided in attachment #2.

GUIDELINES FOR PROCTORS FOR ALL UW COURSES – TESTS AND MIDTERM EXAMINATIONS

3. Motion: Council recommends approval of the guidelines as provided in attachment #3.

NEW ACADEMIC PLANS [effective September 1, 2011]

Faculty of Applied Health Sciences
Recreation and Leisure Studies
Tourism and Parks Management Degree

4. Motion: To create the new degree plan as provided below:

Recreation and leisure studies students interested in the tourism and parks management major will declare this after completing at least 5.0 units (i.e., after the completion of year one), with a minimum of 2.5 units completed while enrolled in recreation and leisure studies, by submitting a Plan Modification/Internal Transfer Form (www.registrar.uwaterloo.ca/forms/PlanModification.pdf) to the undergraduate office for approval. Admission decisions are normally made in May after winter term grades are available. To be considered for the tourism and parks management major, students must have completed a minimum of 5.0 units including REC 100, 101, 230, and 280; and students must be in good academic standing in an honours program.

Degree Requirements

1. Recreation courses (minimum of 10.0 units):
   - Required recreation (6.0 units): REC 100, 101, 205, 220, 230, 270, 280, 334/ENVS 334, 371, and three of REC 311, 380, 416, 425/PLAN 414, 433/ENVS 433, 437/ENVS 444, 480 with a minimum of two of these (1.0 unit) at the 400 level.
   - Recreation electives (minimum of 4.0 units):
     Each student must complete additional recreation electives to meet the required minimum of 10.0 recreation units.
     Please note that MU 380e (WLU) “Creative Arts for Children with Special Needs” is accepted as a UW recreation elective.
     All cross-listed courses with REC are counted as recreation electives and are included in the major average.
2. Courses outside the Department of Recreation and Leisure Studies (maximum of 10.0 units):

- Required (2.0 units):
  - PSYCH 101
  - SOC 101
  - ECON 101
  - ENVS 200 (Parks) or ECON 220 (Tourism)

- Select one course from four of the following seven categories (2.0 units restricted electives):
  - An English course
    *An English writing course (one of ENGL 109, 129R, 140R, 209, any 210 course, or 240R) is strongly recommended.*
  - A fine or performing arts course or language course (other than English or ESL)
    - DRAMA, FINE, MUSIC, SPCOM or any language course other than ENGL
  - A humanities course
    - CLAS, EASIA, HIST, JS, NATST, PACS, PHIL, RS, SPD
  - A social science course other than psychology or sociology
    - ANTH, ECON, ISS, PSCI, SMF, SOCWK, STV, WS
  - An applied health sciences faculty course (other than recreation)
    - GERON, HLTH, KIN
  - A faculty of environment course
    - ENVS, ERS, GEOG, INDEV, PLAN
  - A course offered by the School of Computer Science

  **Note:** The course subjects listed may not be comprehensive. For a complete list, or approval of a specific course subject, please see the undergraduate advisor or the department website.

- Tourism and parks management electives

Tourism and parks management electives have been categorized into two focus areas: tourism management and parks management. Students may choose electives from one focus area or any combination of courses listed. The focus area is not designated on the degree.

Select 3.5 units from the following list:

**Tourism Management**

- ANTH 348
- ENGL 208M
- ENVS 200
- GEOG 202
- GEOG 233
- GEOG 319/PLAN 320
- GEOG 323/REC 383
- GEOG 333/REC 333
- GEOG 423
- GEOG 426
- REC 215
- REC 311
- REC 380
- REC 425/PLAN 414
- REC 433/ENVS 433
- REC 480

**Park Management**

- ECON 220
- ENVS 201
- ENVS 444/REC 437
- ERS 215
- ERS 383/BIOL 383
- GEOG 102 or SCI 250
- GEOG 356
- GEOG 368/PLAN 341
- GEOG 405
- PLAN 340
- REC 316
- REC 416
- REC 425/PLAN 414
- REC 433/ENVS 433
Note: Students may only count courses listed here as tourism and parks management electives if they are taken over and above the required recreation courses (see #1 above).

- Students must take an additional 2.5 units of open electives.
- Total number of units to complete degree is 20.0.

Rationale: The honours tourism and parks management degree will give recognition to students who choose to specialize in the areas of tourism and parks, and will be especially visible to high school students when choosing their program of entry for university studies. The Parks Option and Tourism Option have been available for several years and will continue to be available to students who want to supplement another degree with an option. The honours plan is a repackaging of the existing two options into a degree. The management focus of the degree provides students with the necessary understanding of the components of tourism and park planning, management, and funding, along with the legal, ethical and environmental impacts of decision-making, relationships between people and place, and evaluation practices. Graduates of the program will be well-prepared for careers in Canada's national or provincial park systems or conservation areas, tourism research, tourism enterprises, or destination management positions, or for further study and research at the graduate level.

ACADEMIC PLAN CHANGES

➢ Faculty of Mathematics
Applied Mathematics
Honours Mathematical Physics

5. Motion: To approve the changes to the plan requirements as provided below [bold = new text; strikeout = deleted text]:

Degree requirements:

All of

MATH 237 Calculus 3 for Honours Mathematics or MATH 247 Calculus 3 (Advanced Level)
AMATH 231 Calculus 4
AMATH 242/CM 271/CS 371 Introduction to Computational Mathematics
AMATH 250 Introduction to Differential Equations
AMATH 261/PHYS 263 Classical Mechanics and Special Relativity
AMATH 271 Introduction to Theoretical Mechanics (new course)
AMATH/PMATH 331 Applied Real Analysis (moved from deleted “Three of” list)
AMATH/PMATH 332 Applied Complex Analysis
AMATH 351 Ordinary Differential Equations 2
AMATH 353 Partial Differential Equations 1
AMATH 361 Continuum Mechanics (moved from deleted “Three of” list)
AMATH 373 Quantum Theory 1 or PHYS 334 Quantum Physics 2
AMATH 473/PHYS 454 Quantum Theory 2 (moved from deleted “Three of” list)
AMATH 475/PHYS 476 Introduction to General Relativity (moved from deleted “Three of” list)
PHYS 121 Mechanics (new title)
PHYS 122 Waves, Electricity and Magnetism (new title)
PHYS 234 Quantum Physics 1
PHYS 242 Electricity and Magnetism 1
PHYS 342 Electricity and Magnetism 2
PHYS 241 Electricity and Magnetism
PHYS 258 358 Thermal Physics (new course number)
PHYS 359 Statistical Mechanics
PHYS 363 Intermediate Classical Mechanics
PHYS 441A Electromagnetic Theory
Three of
AMATH/PMATH 331 Applied Real Analysis
AMATH 361 Continuum Mechanics
AMATH 432/PMATH 453 Functional Analysis
AMATH 456 Calculus of Variations
AMATH 463 Fluid Mechanics
AMATH 473/PHYS 454 Quantum Theory 2
AMATH 475/PHYS 476 Introduction to General Relativity

Three of
AMATH 473/PHYS 454 Quantum Theory 2
AMATH 475/PHYS 476 Introduction to General Relativity
CO 481/CS/PHYS 467 Introduction to Quantum Information Processing
PHYS 335 Condensed Matter Physics
PHYS 434 Quantum Physics 3
PHYS 435 Solid State Physics
PHYS 441B Electromagnetic Theory
PHYS 444 Modern Particle Physics
PHYS 480 Radiation-Biophysics

2.5 units of AMATH/PHYS electives. We strongly suggest that at least 1.0 units should be chosen from the list of sensible course streams available on the department website and from the applied mathematics undergraduate advisor.

2.5 units of electives chosen from outside the mathematics Science, and Engineering faculties faculty and the physics department.

Rationale: Physics has significantly changed the structure of its undergraduate program leading to scheduling issues. These changes allow students to undertake a mathematically sound plan in mathematical physics that balances the offerings of the mathematics faculty and the physics department.

Honours Applied Mathematics

6. Motion: To approve the changes to the plan requirements as provided below [bold = new text; strikeout = deleted text]:

Degree requirements:

All of
MATH 237 Calculus 3 for Honours Mathematics or MATH 247 Calculus 3 (Advanced Level)
AMATH 231 Calculus 4
AMATH 242/CM 271/CS 371 Introduction to Computational Mathematics
AMATH 250 Introduction to Differential Equations
AMATH 261/PHYS 263 Classical Mechanics and Special Relativity
AMATH/PMATH 332 Applied Complex Analysis
AMATH 351 Ordinary Differential Equations 2
AMATH 353 Partial Differential Equations 1
PHYS 121 Mechanics (new title - from list below)

Three 400-level AMATH courses.

Two additional 300- or 400-level AMATH courses.

All of
PHYS 121 Mechanics (new title)
Four additional courses (2.0 units) from any one department in the faculties of science or engineering. A set of four courses (2.0 units) from departments in other faculties may be eligible subject to approval by the applied mathematics undergraduate advisor.

Recommended course

AMATH/PMATH 331 Applied Real Analysis

Rationale: The vast majority of the students with an interest in physics are enrolled in either mathematical physics or the physics option, as such they take a significant number of physics courses already. Of the remaining pool of students some are interested in predominantly biology and economics, and for them, the requirement of “four courses from the same department” is both more rewarding academically and easier to schedule.

Joint Honours Applied Mathematics

7. Motion: To approve the changes to the plan requirements as provided below [bold = new text; strikeout = deleted text]:

Degree requirements:

All of

MATH 237 Calculus 3 for Honours Mathematics or MATH 247 Calculus 3 (Advanced Level)
AMATH 231 Calculus 4
AMATH 242/CM 271/CS 371 Introduction to Computational Mathematics
AMATH 250 Introduction to Differential Equations
AMATH 261/PHYS 263 Classical Mechanics and Special Relativity
AMATH/PMATH 332 Applied Complex Analysis
AMATH 351 Ordinary Differential Equations 2
AMATH 353 Partial Differential Equations 1

PHYS 121 Mechanics (new title - from list below)

Three 400-level AMATH courses.

All of

PHYS 121 Mechanics (new title)
PHYS 122 Mechanics and Waves 2

Four additional courses (2.0 units) from any one department in the faculties of science or engineering. A set of four courses (2.0 units) from departments in other faculties may be eligible subject to approval by the applied mathematics undergraduate advisor.

Recommended course

AMATH/PMATH 331 Applied Real Analysis

Rationale: The vast majority of the students with an interest in physics are enrolled in either mathematical physics or the physics option, as such they take a significant number of physics courses already. Of the remaining pool of students some are interested in predominantly biology and economics, and for them, the requirement of “four courses from the same department” is both more rewarding academically and easier to schedule.
DELETION OF ACADEMIC PLANS  [effective September 1, 2011]

Faculty of Mathematics
Mathematics/Chartered Accountancy Options

8. Motion: To approve the deletion of the following mathematics/chartered accountancy options: actuarial science, finance, and information systems management.

Rationale: The faculty has revised the mathematics/chartered accountancy degree requirements as a result of new courses in the School of Accounting and Finance and the Department of Economics. The addition of these new courses to the “core” math/CA curriculum causes a reduction in the available courses that support these options. With this reduction, it is harder to distinguish between the options. Also, with the recent math faculty policy permitting minors and double majors, the need for these specific options is reduced (for example a math/CA student can now do an actuarial science minor, obviating the actuarial science option).

CHANGES TO FACULTY REGULATIONS  [effective September 1, 2011]

Faculty of Applied Health Sciences
Examinations and Standings
Eligibility for Co-op

9. Motion: To approve the change to the faculty’s eligibility for co-op as presented below [bold = new text]:

- Students must be in an Honours academic plan to be eligible for the Co-op program.
- **Health studies and gerontology students must meet the minimum degree requirements for their plan to continue in co-op.** That is, they must maintain a minimum satisfactory standing.

Rationale: The co-op plan is more challenging as students must complete professional development courses and compete for employment opportunities. Students with a conditional academic standing should make improving their academic courses a priority.

FOR INFORMATION

Academic Program Review Report

Biology – See attachment #4.

Curricular modifications

On behalf of Senate, council approved changes to academic plans, new courses, course changes and course inactivations for Renison University College (English as a second language), and the faculties of: applied health sciences (course and plan changes notes, health studies and gerontology, recreation and leisure studies); arts and mathematics (computing and financial management); mathematics (applied mathematics, commerce, computational mathematics, computer science, information technology management, mathematical business, mathematical economics, mathematics, mathematics/chartered accountancy, mathematics course list, mathematics/financial analysis and risk management, pure mathematics, statistics and actuarial science); and science (earth sciences).

/kjj Geoff McBoyle
December 15, 2010

Associate Vice-President, Academic
Memo

To: Senate
From: Ken Lavigne, Registrar
CC: Carmen Roecker
Date: December 15, 2010
Re: 2011-2012 Calendar Dates

Attached are the proposed dates for 2011-2012. They reflect all specifications in the Guidelines for Establishing Calendar Dates.

Motion: That Senate approve the revised proposed 2011-2012 calendar dates.
### Academic Calendar Dates, 2011-2012

The following symbols and abbreviations are used throughout this table:

- **Days of the week**: (M) Monday, (T) Tuesday, (W) Wednesday, (Th) Thursday, (F) Friday, (S) Saturday, (U) Sunday
- **N/A** – Not Applicable

<table>
<thead>
<tr>
<th></th>
<th>Fall 2011</th>
<th>Winter 2012</th>
<th>Spring 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-operative Work</td>
<td>Aug. 29</td>
<td>Jan. 2</td>
<td>Apr. 30</td>
</tr>
<tr>
<td>Term Begins</td>
<td>(M)</td>
<td>(M)</td>
<td>(M)</td>
</tr>
<tr>
<td>Lectures Begin</td>
<td>Sept. 12</td>
<td>Jan. 3</td>
<td>May 1</td>
</tr>
<tr>
<td></td>
<td>(M)</td>
<td>(T)</td>
<td>(T)</td>
</tr>
<tr>
<td>Reading Week</td>
<td>N/A</td>
<td>Feb. 20-24</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(M-F)</td>
<td></td>
</tr>
<tr>
<td>Convocation</td>
<td>Oct. 22</td>
<td>N/A</td>
<td>June 13-16</td>
</tr>
<tr>
<td></td>
<td>(S)</td>
<td></td>
<td>(W-S)</td>
</tr>
<tr>
<td>Lectures End</td>
<td>Dec. 5</td>
<td>Apr. 2</td>
<td>July 25</td>
</tr>
<tr>
<td></td>
<td>(M)</td>
<td>(M)</td>
<td>(W)</td>
</tr>
<tr>
<td>Pre-Examination</td>
<td>Dec. 6,7</td>
<td>Apr. 3-8</td>
<td>July 26-29</td>
</tr>
<tr>
<td>Study Days</td>
<td>(T,W)</td>
<td>(T-U)</td>
<td>(Th-U)</td>
</tr>
<tr>
<td>On-Campus Examinations Begin</td>
<td>Dec. 8 (Th)</td>
<td>Apr. 9 (M)</td>
<td>July 30 (M)</td>
</tr>
<tr>
<td>On-line Class</td>
<td>Dec. 9,10</td>
<td>Apr. 13,14</td>
<td>Aug. 3,4</td>
</tr>
<tr>
<td>Examination Days</td>
<td>(F,S)</td>
<td>(F,S)</td>
<td>(F,S)</td>
</tr>
<tr>
<td>On-Campus Examinations End</td>
<td>Dec. 22(Th)</td>
<td>Apr. 21 (S)</td>
<td>Aug. 10 (F)</td>
</tr>
<tr>
<td>Grades Due *</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Co-operative Work</td>
<td>Dec. 23</td>
<td>Apr. 27</td>
<td>Aug. 24</td>
</tr>
<tr>
<td>Term Ends ‡</td>
<td>(F)</td>
<td>(F)</td>
<td></td>
</tr>
</tbody>
</table>

| Teaching days | 60 | 60 | 60 |
| Pre examination | 2 | 6 | 4 |
| Examination days | 13 | 12 | 11 |

* Actual dates may vary depending on employer or student requirements.
GUIDELINES FOR DETERMINING ACADEMIC CALENDAR DATES

The following are principles and guidelines either formally agreed upon by Senate or adopted as common practice in determining the dates for the academic year.

- That the practice of setting dates for each academic year continues to be an annual exercise.
- That there be no fewer than 12 examination days in the Fall and Winter Terms, and 11 examination days in the Spring Term.
- That there be no fewer than 2 study days (excluding Saturday, Sunday and holidays) between the end of classes and the beginning of examinations and the university will attempt to schedule a maximum of 5 study days when possible (including Saturday, Sunday and holidays).
- That there be no fewer than 60 teaching days in a term. A clear rationale for fewer than 60 teaching days must be communicated to Senate at the time calendar dates are approved.
- That attention be given to balancing the number of meets in courses. Where an imbalance may occur because of holidays (e.g., 11 Fridays and 13 Mondays), the last day of classes may use the class schedule for a different day in order to balance the number of meets across all courses.
- That Fall Term classes in September begin on the Monday following the Labour Day Holiday.
- That in the Fall Term no examinations be scheduled beyond December 22.
- That the start date for Winter Term be January 3 when that date falls on a Monday, Tuesday or Wednesday. Otherwise the start date is the first Monday following January 3. In the event of Monday, January 3 being a declared holiday the term would begin January 4.
- That the 5-day Winter Reading Week occurs in all Faculties and must begin on the third Monday in February in keeping with an informal agreement with Wilfrid Laurier University and University of Guelph.
- The start date for Spring Term is normally May 1, 2 or 3 when these dates fall on a Monday, Tuesday, or Wednesday. Otherwise the start date is the first Monday following May 3.
- In calculating teaching days in a term, Saturdays, Sundays and statutory or University holidays are excluded. In calculating examination days, Saturdays which fall within the period are included, whereas Sundays and statutory or university holidays are excluded. One exception to the above, approved by Undergraduate Operations Committee is that normally examinations will not be scheduled on the Saturday which follows Good Friday when that day falls within the examination schedule.
- Grades due dates for on-campus courses are normally scheduled seven days from the date of the final examination. Grades for courses without a scheduled final examination are normally due 14 days after the start of examinations. Grades for Distance Education courses are due on the last date of the grades submission period.

Prepared by:
K.A. Lavigne, Registrar
October 20, 2009 (replaces October 11, 2005)
Aegrotat Degree

This degree is intended for those students who have successfully completed a large portion of their degree requirements but, for reasons not of their own making, are prevented from completing those requirements. Granting of the degree is typically restricted to those students whose capacity to complete their respective degree requirements was altered dramatically due to accident or illness. Recipients are not, however, prevented from completing degree requirements should this become possible.

The aegrotat designation will appear on recipient’s degree.

Requirements for Degree (this process applies to degree, certificate and diploma programs)

The student must have completed half the program requirements in a certain area, as approved by the associate chair, undergraduate studies, in the student’s home department.

In order to be considered for the aegrotat degree:

1. The student must be in satisfactory standing.
2. The condition which makes the degree completion impossible should not have been present at time of entry into program; or documentation establishes that the condition has deteriorated to the point where the student cannot continue with his/her studies.

Conditions:
1. The aegrotat degree is unavailable should a student simply wish to withdraw prior to completing full degree requirements.
2. If the student recovers, (s)he may petition to waive time restrictions (as necessary) and return the aegrotat degree in order to receive the actual degree.

Procedures for Assigning the Degree

Application for the degree can be made by the individual student or by delegates acting on his/her behalf. The application will need to be supported by medical and academic documentation.

1.1. Upon receipt of an application for an aegrotat degree the associate dean, undergraduate studies for the student’s home faculty will arrange that the faculty standings committee discuss the application.

The decision to award an aegrotat degree will require full consideration of the student’s academic and medical histories. The application must be supported by verification provided by a third party physician. This documentation will then be reviewed by a physician employed by the university. The decision on the granting of aegrotat degree will be based upon the recommendation provided by the university physician.

The applicant, guardian, or delegate is responsible for costs related to any off campus medical assistance required to complete the application process.

1.2. The committee may recommend the award of the aegrotat designation to Senate Undergraduate Council if it deems that:

---

1 This statement also refers to certificates and diplomas
1.2.1. there is sufficient evidence that were it not for the illness the student would have continued in his/her studies and completed his/her degree requirements, and

1.2.2. that due to the illness, it is highly unlikely that the student will be able to complete his/her degree limits within the degree time limits.

1.3. The recommendation of the faculty standings committee will be taken to Senate Undergraduate Council for approval.

1.4. Prior to the awarding of the degree the student, his/her legal guardian or delegate must agree in writing to the receipt of the aegrotat degree.

1.5. The aegrotat degree will be awarded at the next convocation ceremony or at a time determined by the relevant associate dean, undergraduate studies or registrar. It may be awarded in-person to the student or his/her representative, or in absentia.

9 November, 2010
Guidelines for Proctors for all UW Courses

Tests and Midterm Examinations

If no specific instructions are given by the instructor, follow the instructions below:

- Please show up at the designated location to pick up the examination papers at least 30 minutes before the examination starts.

- Proceed to the assigned examination room. Clear the classroom of all students. Place examinations and other specific examination material on the desk, face down.

- Write any instructions to the students from the instructor on the board in large legible print.

- Proctors should check the cubicles in the nearest washroom prior to the start of the examination for notes, pagers, cell phones, etc.

- Allow students a reasonable amount of time to enter the examination room to set up.

- As students enter the room, instruct them to:
  o find a seat as quickly and quietly as possible
  o turn off cell phones and pagers and put them in their bags/backpacks
  o place all course materials and bags/backpacks on the floor underneath the desk
  o have no cell phones or pagers at the desk where they are seated
  o leave the examination paper on the desk until instructed to turn it over

- Advise students of the materials they should have with them as they sit to write the examination: WatCard or other photo ID, pen and/or pencil, eraser, calculator (if allowed), food and/or drink (if allowed), and any other specific material as specified by the instructor.

- 20 minutes after the start of the examination, compare the photo ID presented with the individual writing the examination along with the name written on the examination. If a student is writing the examination without the necessary identification, have the student complete an “Identification Form”.

- Students who arrive to sit the examination after other students have completed the examination and left will not be allowed to write.

- During the examination time, circulate throughout the examination room and monitor students as they write the examination. Do not sit at the front of the examination room and perform other work.

- Only one student at a time may leave the classroom to go to the washroom. Where feasible, a proctor must accompany the student into the washroom.

- If there are reasonable grounds to believe that a violation of academic regulations has occurred, collect all of the evidence available. If the student refuses, under no circumstances should the
alleged offender be touched. In the event that answer books have to be collected provide the student with a new booklet and allow the student to finish writing the examination. If the suspected violation is copying, then move the student and allow the student to continue the examination in another seat. In the presence of the student and another proctor, a proctor may look into pencil cases etc. to remove evidence. Send all the collected evidence with a statement of what occurred to the associate dean, undergraduate studies, of the faculty in which the course resides.

- If there is a fire alarm during the examination, try to connect with the instructor for instructions. If unable to get specific instructions from the instructor, tell the students that the examination is over. Students should be told to leave their examination papers on their desks, leave all personal items in the exam room which can be retrieved once the room is cleared by a fire official, and, along with the proctors, vacate the building. The proctors are the last people to leave the examination room. They will close the doors of the examination room and, after the fire official indicates that it is permissible to return to the building, they will return to collect the examination papers.

- 10 minutes before the end of the examination, announce that there are 10 minutes left and instruct the remaining students to stay in their seats until the examination period is completed.

- At the end of the examination announce: “Stop writing now. The examination is over. Do not talk, and if you continue to write you risk having marks deducted.” If any student continues to write, take his/her name and ID number and report the situation to the instructor.

- Gather the examination papers and other materials, and deliver them to the instructor or to a room already specified by the instructor.

- Proctors are expected to report any deviations from these guidelines to the instructor.

9 November, 2010
BIOLOGY

Review Process

This was the second formal review of the undergraduate programs of the Department of Biology (BIOL). The first review was in 2002. The Honours Biochemistry program was included in an accreditation review of Chemistry programs co-ordinated by the Canadian Society for Chemistry in 2008. The graduate program of the Department of Biology has been reviewed by the Ontario Council on Graduate Studies (OCGS) three times; in 1982, 1988 and 1995.

It was agreed with OCGS that the Department of Biology would undergo an “Augmented Review” whereby both undergraduate and graduate programs are reviewed together. The self study for this review was submitted November 19, 2009; the site visit occurred June 2 to 4, 2010; the review team report was submitted July 5, 2010; and the departmental response was received 7 October, 2010.

Characteristics of the Program

Historical Overview

The Faculty of Science hired its first biologist in 1959, although the Biology program did not start until 1964. In 1979 Co-op Biology started, and in 1981 Biology and Environment and Resource Studies (regular and co-op) began. The Honours Biology program underwent a major overhaul in the 1990s, and the revised program was available for incoming students in Fall 2001. The most significant change was the identification of a number of specializations that students could choose from and receive recognition for on their degrees.

The Biology Department shares two programs with other Departments. Biochemistry (regular and co-op), which started in 1985, is shared with the Department of Chemistry. In 2001, the Institute of Biochemistry and Molecular Biology (IBMB) was formed to bring together biochemists in Biology and Chemistry to provide a body that could examine the Biochemistry program and bring recommendations to the two Departments.

Biology and the School of Computer Science share Bioinformatics (co-op) which started in 1999. Students in this program register in the Faculty of Mathematics and graduate with a Bachelor of Science.

Biomedical Sciences started in 2005 although it previously was known as Honours Science, Pre-Optometry/Pre-Health, and prior to 1998 was called Honours Science Program 2 Pre-Optometry/Pre-Health. At present Biology is taking the lead in two new inter-disciplinary programs – Neuroscience and Synthetic Biology.

At the time of this review the Department of Biology had 37.5 full-time equivalent (FTE) faculty members and 23 staff positions comprising three instructors, seven administrative staff members and 13 technicians.

Space and large class sizes are the two most serious challenges. Fortunately, the Faculty of Science is preparing for a major building exercise and it is well recognized that Biology is the most under-serviced of the Departments in the Faculty.
Program Objectives

The Department’s vision is expressed as:

“[By] leveraging the unique strengths of the University of Waterloo, we will be the integrative force in Canada that catalyses innovation at the interface between biology and the physical and applied sciences.”

The Department’s interpretation of this statement is that it will strive to provide the foundation of Biology within the context of the particular characteristics of Waterloo.

Specifically the Department’s strategy for undergraduate education is to offer undergraduate training that is broad and relevant to the needs of society, evolving as these needs change.

Distinctiveness/Benchmarking

As a consequence of its very high level of research productivity and quality, the Department of Biology at the University of Waterloo (UW) is one of the foremost Biology Departments in Canada.

Academic Programs Offered

The Department offers the following plans:

BSc in Honours Biology (regular and co-op);
BSc in Honours Biochemistry (regular and co-op);
BSc in Biochemistry (Biotechnology Option) (regular and co-op);
BSc in Honours Biology and Environment and Resource Studies (regular);
BSc in Honours Biology and Geography and Environmental Management (regular);
BSc in Honours Bioinformatics (co-op);
BSc in Honours Biomedical Sciences (regular);
Minor in Biology (available with any other four-year Honours degree);
Minor in Biochemistry (available with any other four-year Honours degree).

The goal of the Department of Biology is that its undergraduates, at the point of graduating, are able to solve biological problems by applying a broad conceptual foundation in a technically competent and creative manner using the scientific method.

The learning outcomes of the program are five and they are consistent with the University’s Undergraduate Degree Level Expectations. They are biological concepts; analytical and problem solving skills; scientific method; technical skills; professional skills and attitudes. In detail, they are:

Biological Concepts: by the end of the degree, Biology students will:
• work with a solid, broad foundation to integrate and apply concepts
• appreciate biological mechanisms, biological diversity and evolution
• demonstrate awareness of the biological influence on the universe.

Analytical and Problem Solving Skills: by the end of the degree, students will:
• routinely use logic and recognize logical arguments
• demonstrate literacy and numeracy
• express ideas and arguments by communicating effectively both orally and in writing
• think flexibly in the solving of life problems.

Scientific Method: by the end of the degree, students will:
• demonstrate understanding of the scientific method by using it to ask critical and logical questions and design appropriate experiments.

Technical Skills: by the end of the degree, students will be able to:
• apply technical skills as they implement experiments of their own or others’ design
• demonstrate competence in basic and advanced laboratory and/or field skills
• group, analyse and mathematically apply/solve data.

Professional Skills and Attitudes: by the end of the degree, students will:
• be resourceful, confident and independent
• be effective and self-regulating team members
• demonstrate some level of leadership
• express comfort with failure
• want to ask creative questions
• connect their personal reality to classroom experiences
• feel a sense of identity, belonging and success based on interactions with faculty members, teaching assistants, staff members and each other.

The review team concludes “that the Department of Biology is working tirelessly to meet the program goals it has set out for itself, but that these programs are not synchronized in an optimal fashion with recent proposals for new research and graduate program fields…” The Department is aware of this issue and will address it pending the outcome of the Ontario Council on Graduate Studies (OCGS) appraisal.

Students

In 2004, the entry point for applicants for admission into Biochemistry, Biology and Biomedical Sciences programs was combined into Honours Life Sciences (regular or co-op). In 2004, 3,302 students applied to Honours Life Sciences; by 2008, it had reached 4,134, a 25.2 per cent increase. During the same period the percentage of students applying to co-op had increased from 35.7 in 2004 to 43.3 in 2008.

Of the applicants to Honours Life Sciences, over the period 2004 to 2008 inclusive, an annual average of 426 students (11.9 per cent of applicants) were allowed to register - 233 were in the regular stream and
193 in the co-op stream. The average grade of the students entering Honours Life Sciences, regular and co-op, over the time period 2004 to 2008 inclusive, was 83.4 per cent. The review team considers the quality of entering students to be high and comparable to other Canadian schools of similar rank.

Entrance scholarships are offered on the basis of entrance grades. In the academic year, 2008-09, 16 students in Life Sciences received a President’s Scholarship of Distinction which requires an entrance grade of 95 per cent or higher; 78 received a President’s Scholarship, with an entrance grade of 90 to 94.9 per cent; 113 received a Merit Scholarship with an entrance grade of 85 to 89.9 per cent; and 156 received a Faculty of Science Entrance Scholarship for an entrance grade of 80 to 84.9 per cent.

Upper-year scholarships are available to undergraduates in the Biology program. These range from a total of $19,000 to $42,500 per year allotted to 40 to 60 students per year. These awards are made on the basis of academic performance. The Department also has a senior Honours Project Excellence Award.

From 2003 through 2009, the Department allocated an annual average of 19 NSERC Undergraduate Student Research Awards (USRAs) to support undergraduates working in the laboratories of individual faculty members.

The Department offers the opportunity of teaching assistantships (TAs) to undergraduates. In the academic year 2008-09, the Department offered 157 TAs. The Department also offers an Undergraduate TA Award.

Students are involved in the Biology Undergraduate Society (BUGS). BUGS works cooperatively with the Department and plays an important consultative role to ensure that the views and concerns of undergraduate students are communicated to the Chair. Members of BUGS periodically participate in Department meetings.

Between 2001-02 and 2007-08 inclusive, the undergraduate enrolment in Biology courses grew by 74 per cent from 8,196 to 14,272. This growth was abrupt. There was a 39 per cent increase in the 2003-04 academic year due to the enrolment of the double cohort in first year, which did not subside in more recent years. The review team considers that the enrolment increases in Biology are extremely high and are not sustainable if they continue at this level.

The review team reports:

'We recognize that as a means of dealing with large class sizes, the laboratory portions of courses have in many cases been “decoupled” from the lecture section to create separate courses. Problematically, the laboratory courses are not mandatory as prerequisites for subsequent course work. Clearly, the goal of this lab-lecture decoupling was to take the pressure off the available lab course spaces that could not possibly accommodate all the students. The Department of Biology currently has 8 lab spaces in which it offers the balance of its course laboratory component to a much smaller group of students than the number registered in the lecture sections. A number of teaching laboratories were converted to research space for new faculty a couple of years ago and with increasing enrolments, this puts substantial strain on the organisation of courses. Graduate student teaching assistants are too few in number to provide teaching assistance to the current laboratory enrolments and as a consequence,
~90 undergraduate teaching assistants were hired in 2009-2010. Whereas undergraduate students did not complain about the situation they are used to, it is evident that more graduate students would be needed to provide a stable quality education and to motivate students for pursuing graduate careers……

We conclude that this is not an acceptable solution to the manpower (lack of graduate students) and space (lack of teaching lab space) problems. Lecture courses with laboratory training must not give students the option of declining the lab component, the laboratory component is an intrinsic part of quality science education for biology majors and non-majors.”

The review team further states:

“that space for the necessary laboratory components of the undergraduate program is beyond overload and must be increased at least two-fold if the programs are to be sustained. Three-fold increase would provide some margin for future increases in enrolment and to allow laboratory instruction to once again be mandatory (as it should be) for all courses with a lab component.”

Students have the opportunity for field courses since the Department is a member of the 13 member Ontario Universities’ Field Biology program. This program allows students to attend the 40 to 50 field courses offered annually by the other 12 universities that participate in the program or those offered by UW in Algonquin Provincial Park; in New Brunswick; in Costa Rica; or in the Bahamas.

The Department of Biology offers six courses by Distance Education. The average enrolment is 65 students per course ranging from an average low of 48 to an average high of 78.

Service teaching is a very important component of Biology's activity. Introductory Biology 2 (BIOL 112) and The Biology of Aging (SCI 255) are two courses intended specifically for non-majors. Enrolment from outside Biology accounted for 95.8 per cent and 97.7 per cent in 2002 and 2008 respectively. Similarly SCI 255 had enrolment from outside Biology of 70.2 per cent and 74.1 per cent in 2002 and 2008 respectively. In addition, in 2008, 65 per cent of the 1,141 students in BIOL 130 and 61 per cent of the 1,042 students in BIOL 139 were non-Biology students.

Using a 11 point scale, where 10 is high and zero is low, course evaluation surveys are carried out each term by the Department of Biology. The focus is on two areas – “value of the course” and “the professor’s evaluation”(PE), which is based on responses to six questions concerning oral presentation (Q6), response to questions (Q7), visual presentations (Q8), overall quality of teaching (Q9), attitude towards teaching (Q10) and availability outside the class (Q11) according to the formula:

PE = 0.5 (average of Qs 6, 7, 8, 10 and 11) + 0.5 (Q9).

The average value of courses is 8.03 with a low of 6.64 and a high of 9.60 while the professor’s evaluation is 8.53 with a low of 6.40 and a high of 9.55. The average value of course evaluations increase from 7.49 in first year to 8.33 in fourth year. The average professor’s evaluation starts at 8.44 in first year; decreases to 8.22 in third year; and increases to 8.83 in fourth year.
For sessional appointments the average evaluation of courses, for the period 2002 to 2009, was 7.78 with a low of 6.01 to a high of 9.29; while the average for the professor’s evaluation was 8.22 with a low of 5.26 to a high of 9.63.

During the past seven years, 22 students have participated in international exchanges of one or two terms of study. In any given year the numbers range from one to five. There are a wide range of countries in which the students have studied e.g. Singapore, Hong Kong, England, Australia, Sweden, France, Denmark, Northern Ireland and Germany. Foreign undergraduate students come to study at UW’s Biology Department from Australia, Germany, Korea, Singapore, China, France, Hong Kong, Norway and Sweden.

From 2005 to 2009 inclusive, co-op employment for both Biology and Biochemistry has stayed in the low to mid 90 per cent range even though the number of co-op students has increased. In Biology the number of co-op students has increased from 78 in 2005 to 122 in 2009, while in Biochemistry the increase has been from 100 in 2005 to 127 students in 2009.

Using the North American Classification System half of the co-op students in Biology for Fall 2008 were employed in three sectors – universities, federal government public administration, and general medical and surgical hospitals. Half of the Biochemistry co-op students were employed in four sectors, namely, the same three sectors as the Biology students plus the pharmaceutical and medicine manufacturing sector.

Employers are satisfied with the co-op students and the co-op students are satisfied with their co-op positions. Of the 465 co-op Biology students evaluated by employers, from 2004 to 2009 inclusive, 65.8 per cent were graded as outstanding or excellent. For the 287 Biochemistry co-op students, 66.1 per cent were evaluated as outstanding or excellent.

On a scale of 11, where 10 is high and zero is low, 83.3 per cent of Biology co-op students and 80.1 per cent of Biochemistry co-op students rated their co-op jobs as eight of higher.

The average retention rate for undergraduates who have reached their normal graduation time in Biology is 71.6 per cent; in Biochemistry 69.9 per cent; and in Biomedical Sciences it is 78.3 per cent.

From 2002 to 2008 inclusive, the annual average number of students graduating from Biology, Biochemistry and Biomedical Sciences was 80, 44 and 76 respectively. Over the years the number of students graduating from Biology and Biochemistry has remained steady. However, there has been a significant increase in the number of graduates from Biomedical Sciences, from 32 in 2002 to 123 in 2008, with an average of 76 for this period.

Of the students, from 2004 to 2008, who graduated from the Biology programs 27 to 34 per cent are working or looking for work; 24 to 28 per cent are in professional schools or diploma programs; 27 per cent are in graduate studies; seven to 10 per cent are travelling; and five to 10 per cent of graduates’ activities are unknown. The most frequent job titles are coordinator of biological activity; laboratory technician; microbiological technician; and analytical chemists.
Faculty

At the time of this review the Department of Biology had 37.5 FTE appointments, one of which was shared equally with Physics and Astronomy; two unfilled positions; 87 adjunct appointments; and 29 cross appointments. Of the 37.5 FTEs, 19 are full professors; six are associate professors; nine are assistant professors; two are continuing lecturers; and two are lecturers.

One faculty member has reached the normal retirement date of 65 years of age and four others will reach that age by 2013. Of thee, three have indicated an intention to retire.

Workloads vary within Biology. The average is 2.1 courses per year. Thirteen faculty members teach one or no courses because of administrative or research chair appointments or are in their first year of their appointment. Other faculty members teaching one or two courses have very large research programs with large numbers of graduate students. Three of the four lecturers teach five to six courses. The fourth lecturer, hired in 2008 was to teach six courses by the second year of the appointment. Unfortunately, this individual chose to resign from UW in May, 2010. The Department is currently seeking permission to replace this lecturer in a core complement position.

Because of the large enrolments in Biology courses the Department has a high student to faculty member ratio. Between 2002 and 2008 the student to faculty member ratio remained fairly consistent at 32:1. Such a ratio the review team concludes is inordinately high compared to comparators across Canada. Even with this large student to faculty ratio two faculty members have received the University’s Distinguished Teacher Award. The review team concluded that “the Department of Biology requires more staff in order to maintain its undergraduate teaching enterprise and to increase the quality of student-focused training.”

The reviewers also note “that more graduate teaching assistants are needed in order to provide the necessary instruction for more laboratory sections in large enrolment, lab decoupled classes.”

The research funding of the Department of Biology has grown from $5.8 million in 2002-03 to $7.2 million in 2008-09. Of the $7.2 million in 2008-09, 55 per cent was obtained from the Granting Councils; 15.7 per cent from other peer adjudicated bodies; 19.1 per cent from contracts; and 10.2 per cent from other courses.

The Department at present has three NSERC Tier 1 Canada Research Chairs (CRCs); one Ontario Innovation Trust CRC; two Canadian Foundation for Innovation CRCs; and one Ontario Research Fund CRC. One newly-appointed faculty member is applying for a Tier 1 CRC.

On average, over the past seven years, each current faculty member has published 22.8 articles in refereed journals of proceedings; written, edited or contributed to 4.6 books; and presented 11.1 papers at scientific conferences. In addition, faculty members have been active in professional activities and community service.

Main Strengths

The review team conclude that the Department of Biology is innovative and the “undergraduate program is functioning exceptionally well considering the important problems they deal with concerning undergraduate laboratory space and infrastructure.”
Concerns/Opportunities for Improvements

The review team conclude “that faculty and staff are “stretched to the limit” in terms of their resources (space, finances and human resource) and their morale.”

The reviewers list five recommendations in order of importance:

1. That the University commit to reducing the student faculty ratio in the Department of Biology to meet national or at least provincial standards in biological sciences’ departments.
   Response: The Department has been notionally granted both faculty and technical support positions to begin to address this issue. A new faculty member joined the Department fall 2010; another has been offered a position; and a third search is well underway. In addition the Department has developed a strategic plan for faculty hiring.

2. That the Department of Biology revise their course offerings for lecture courses that were decoupled from the laboratory component. The only unique problem faced by the Department of Biology in delivering its undergraduate programming is to ensure that all students in lecture courses with recognized laboratory components are required to take the laboratory course. The reviewers further state “that it is evident that with the currently available space, the department has no means to follow this recommendation so this will depend on the availability of new space.”
   Response: This recommendation has been accepted. Some courses, however, may have to be offered in a partly uncoupled fashion, where they serve as prerequisites for other programs that do not require the laboratory component.

3. That the Department of Biology revisit its proposal for five new field titles for the graduate program and develop a logical relationship between the undergraduate program of specializations. The reviewers conclude “that it is logical to create a one to one flow between undergraduate and graduate programming.”
   Response: While it is far from normal to have undergraduate specializations and graduate fields aligned, this is a very appealing suggestion. The Department’s ongoing undergraduate review has this as its next task. A potential alignment of this sort is indicated:

<table>
<thead>
<tr>
<th>Proposed field/specialization</th>
<th>Current undergraduate specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology and Environmental Biology</td>
<td>Environment and Ecology</td>
</tr>
<tr>
<td>Physiology, Cell and Developmental Biology</td>
<td>Animal Physiology; Plant Biology</td>
</tr>
<tr>
<td>Microbiology</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Molecular Genetics and Synthetic Biology*</td>
<td>Molecular Biology and Biotechnology</td>
</tr>
<tr>
<td>Bioinformatics, Systematics and Evolution</td>
<td>The Department is considering developing an undergraduate program in Bioinformatics or Computational Biology</td>
</tr>
</tbody>
</table>

*The final approved Field is Molecular Genetics

In addition the Department will soon be considering a proposal to align the first two years of the honours Biology and Honours Biomedical Sciences programs. This alignment will allow for a student to change programs within the first two years without major impact on their progression through the program.
4. That the Dean of Science’s Office explicitly communicate to faculty members, staff members and students space plans within realistic timeframes relating to construction of a new building and the space allocations for Biology in that building.

Response: The Department is fully in accord with this recommendation. Thanks to the prudent fiscal planning of the Dean of Science and other developments, sufficient funds are in hand to begin construction on a “Phase 1” Science project. This structure, to be located adjacent to current Biology space, is to be dedicated largely to ‘undergraduate life’, which the Department interprets to mean undergraduate laboratories, lecture and classrooms, and interaction space. It is expected that “Phase 1” will be ready for occupancy in about three years.

In the short term, the Department is looking both within current Science space and beyond, for opportunities to expand Biology activities into other buildings. With the cooperation of the Chair of Earth and Environmental Sciences, the Biology Department has recently taken over an undergraduate teaching laboratory and a small research laboratory that were being used by faculty members of that Department. In addition there is a commitment from the central animal facility to house parts of the research programs of the new Biology faculty member in the area of Neuroscience. There is also a commitment from the Director of the Waterloo Institute of Nanotechnology to provide laboratory space for a potential recruit of a biologist with interests in that area. Finally, the establishment of the Water Institute with considerable Biology participation, coupled with the arrival of a Canada Excellence Research Chair holder in water research, provide an opening for negotiating laboratory space for a Biology recruit in aquatic ecology.

5. That the Department of Biology becomes more implicated in the administration and design of the bioinformatics program. Giving Biology a role to administer jointly this program would permit the development of this innovative program at the interface of science and informatics.

Response: The Department is close to initiating a major hire in Bioinformatics at a senior level accompanied by a junior faculty hire. If/when this is successful, the Department will have a critical mass around which to focus a Biology-centered bioinformatics/Computational Biology program.
FOR APPROVAL

____________________________

Change to Policy 49 – Extra-University Activity (Faculty Members)

Motion: To approve the proposed rewrite to the “note” in Policy 49 [see below]. [Note: This change will be forwarded to the Board of Governors for approval at its February 1 meeting.]

New Note

Note: Faculty members should be aware that the Board of Governors Bylaw 1 stipulates that a university employee will be indemnified by the university when acting “in or about the execution of duties of his/her office or employment provided he or she acted honestly and in good faith with a view to the best interests of the University.” Whether a particular activity is within the scope of employment may be difficult to determine in advance; the traditional legal definition is that this scope includes “activities that fairly and reasonably may be said to be incident to the employment or logically and naturally connected to it” [Black’s Law Dictionary, Sixth Edition].

Activities that are outside the scope of employment and not indemnified include consulting and professional services where UW is not a signatory to the contract, consulting or other services for which a faculty member receives payment personally, and activity on non-university boards and committees that is not incident to employment at UW.

Present Note

Note: UW’s general liability insurance coverage does not extend to third-party contracts entered into by UW faculty members, or by corporate entities they control, so it is incumbent on such individuals to ensure that adequate and appropriate insurance coverage is in place to mitigate any risks associated with such contracts. General advice about this aspect is available from the Manager, Investment & Insurance in the UW Finance Department.
This policy governs the naming of faculties, departments, schools, chairs, professorships, academic programs and facilities at University of Waterloo with interpretation to include fields, roads and open spaces, buildings or parts thereof. This policy also governs naming associated with limited term naming agreements, sponsorship, changing or discontinuing a named physical spaces, academic program, units or position.

**Naming Policy**

(a) Namings may be approved to recognize current expendable gifts, endowed gifts, sponsorship investments and gifts-in-kind. Funding may extend over an agreed length of time, and such namings may be in perpetuity or time limited. Namings proposed in recognition of planned gifts (bequests) will be considered when the cash or cash-equivalent gift is realized.

(b) Namings may be approved in the name of a donor, a third party at the request of the donor, or to honour an individual or organization for distinguished service to associated disciplines/fields, to the University of Waterloo, the Province of Ontario or to Canada.

(c) Namings should enhance the profile and image of the university. No naming will be approved or (once approved) continued that will call into serious question the public respect of the university.

(d) Normally, naming in honour of a member of the University of Waterloo community will not occur while that person is a regular employee or member of a formal university committee (e.g., Board of Governors, Senate).

(e) Namings will be independent of all appointment, admission and curriculum decisions.

(f) Decisions to name will include consultation with appropriate individuals and groups within the University of Waterloo community.

(g) Ultimate authority to accept, decline, discontinue or transfer a naming at the University of Waterloo rests with the Board of Governors unless delegated by them to another body or office according to the delegation of authority, Procedure 1.

(h) The Office of Development & Alumni Affairs (ODAA) will create, maintain and coordinate a university-wide inventory of approved naming opportunities and a matrix of naming levels that fall within the authority of the President.

(i) Naming opportunities are offered at the discretion of ODAA and are subject to approval by the President and the delegation of authority, Procedure 1.

**Endorsed by Executive Council:** December 1, 2010

**Endorsed by Building & Properties Committee:** pending

**Approved by Senate:** pending

**Approved by Board of Governors:** pending
APPENDIX A
Matrix of Categories & Ranges

Naming opportunities up to $5,000,000, are within the authority of the President and the Provost for approval, unless associated with a building or academic program.

<table>
<thead>
<tr>
<th>Public/Teaching Areas</th>
<th>Proposed Amount/Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Lab (includes e-learning labs)</td>
<td>$200,000 - $750,000</td>
</tr>
<tr>
<td>Lab/Wing/Floor</td>
<td>$250,000 - $5 million</td>
</tr>
<tr>
<td>Foyer/Lobby</td>
<td>$250,000 - $1 million</td>
</tr>
<tr>
<td>Lecture Theatre</td>
<td>$250,000 - $2 million</td>
</tr>
<tr>
<td>Study Area</td>
<td>$100,000 - $250,000</td>
</tr>
<tr>
<td>Lounge</td>
<td>$75,000 - 300,000</td>
</tr>
<tr>
<td>Seminar Room/Classroom</td>
<td>$100,000 - 250,000</td>
</tr>
<tr>
<td>Conference Room</td>
<td>$100,000 - 250,000</td>
</tr>
<tr>
<td>Studio</td>
<td>$100,000 - 250,000</td>
</tr>
<tr>
<td>Residence Room/Apartment</td>
<td>$25,000 - $100,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endowment Category</th>
<th>Minimum Amount/Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td>$3,000,000 minimum</td>
</tr>
<tr>
<td></td>
<td>$5 million+ preferred</td>
</tr>
<tr>
<td>Professorship</td>
<td>$1,000,000 - $3,000,000</td>
</tr>
<tr>
<td>Faculty Fellowship</td>
<td>$500,000</td>
</tr>
<tr>
<td>Lecture Series Fund</td>
<td>$500,000</td>
</tr>
<tr>
<td>Graduate Student Fellowship</td>
<td>$250,000</td>
</tr>
<tr>
<td>Ontario Graduate Scholarship (OGS) Award</td>
<td>$125,000</td>
</tr>
<tr>
<td>Graduate Bursary, Scholarship or Award</td>
<td>$50,000</td>
</tr>
<tr>
<td>Undergraduate Bursary, Scholarship or Award</td>
<td>$40,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Areas</th>
<th>Proposed Minimum Amount/Range*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>Board approval required</td>
</tr>
<tr>
<td>School</td>
<td>Board approval required</td>
</tr>
<tr>
<td>Academic Department</td>
<td>$5,000,000</td>
</tr>
<tr>
<td>Centre</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Institute</td>
<td>$3,000,000</td>
</tr>
</tbody>
</table>