Ira Jacobs, DrMedSc
Professor & Chair

School of
Kinesiology & Health Science
What is Kinesiology?

• Multi-disciplinary studies of the biological, behavioural and social aspects of the spectrum of human physical activity:
  ➢ e.g. inactivity through to competitive sports
School History

1964  Bryce Taylor hired to create physical education department

1967  First entering class

   Department of Physical Education and Athletics formed

   Bryce Taylor, Chair (1964-1981)

1971  First graduating class
1976  Exercise and Sport Science
      Graduate Program started
      M.A. and M.Sc.

1985  Renamed Department of Physical Education, Recreation and Athletics

1992  Graduate Program renamed Exercise and Health Science
1994  Named School of Physical Education
Undergraduate Program renamed
Kinesiology and Health Science
Carol Wilson, Acting Chair (1995-1996)

1999  Renamed School of Kinesiology and
Health Science
Roger Kelton, Chair (1997-2007)

2006  One of Founding Units of:
Faculty of Health
First two Ph.D. students graduate
Academic Programs

Undergraduate (Honours only)
- BA, BSc

Graduate
- Thesis: MSc, MA, PhD
- Coursework:
  - Master of Fitness Science
  - MA (Athletic Therapy)
# of Kinesiology & Health Science Majors

<table>
<thead>
<tr>
<th>Year</th>
<th>Actuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 2000</td>
<td>1,605</td>
</tr>
<tr>
<td>Nov 2001</td>
<td>1,537</td>
</tr>
<tr>
<td>Nov 2002</td>
<td>1,671</td>
</tr>
<tr>
<td>Nov 2003</td>
<td>2,036</td>
</tr>
<tr>
<td>Nov 2004</td>
<td>2,267</td>
</tr>
<tr>
<td>Nov 2005</td>
<td>2,464</td>
</tr>
<tr>
<td>Nov 2006</td>
<td>2,773</td>
</tr>
<tr>
<td>Nov 2007</td>
<td>2,709</td>
</tr>
<tr>
<td>Nov 2008</td>
<td>2,667</td>
</tr>
<tr>
<td>Preliminary Nov 2009</td>
<td>2,741</td>
</tr>
</tbody>
</table>
Faculty Complement: 2009/10

Professor 4
Associate Professor 16
Assistant Professor 14
Senior Lecturer 4
Associate Lecturer 4

42

Part-time Faculty: 49
# KINE Average Section Size

<table>
<thead>
<tr>
<th>Year</th>
<th>1000</th>
<th>2000</th>
<th>3000</th>
<th>4000</th>
<th>All Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08 (actual)</td>
<td>455.5</td>
<td>206.9</td>
<td>89.7</td>
<td>41.8</td>
<td>94.4</td>
</tr>
<tr>
<td>2008-09 (actual)</td>
<td>478.0</td>
<td>207.9</td>
<td>88.0</td>
<td>37.3</td>
<td>89.1</td>
</tr>
<tr>
<td>2009-10 (prelim.)</td>
<td>436.3</td>
<td>244.3</td>
<td>116.3</td>
<td>40.7</td>
<td>102.9</td>
</tr>
</tbody>
</table>
Teaching & Research Laboratories

- Bethune College
- Stong College
- Farquharson Life Sciences Building
- Lumbers Building
- Chemistry Building
- Tait McKenzie Building
- Vanier College

- Computer Science & Engineering
- Behavioural Science Building
- Petrie Science & Engineering
- Sherman Health Science Research Building
Why is Kinesiology So Popular?
Core Courses

• Sociocultural perspectives in kinesiology
• Fitness & health
• Human physiology I
• Human anatomy
• Research methods in kinesiology
• Analysis of data in kinesiology

Plus:
• General education courses
• Advanced electives
• Practica in kinesiology

• Psychology of physical activity & health
• Human physiology II
• Skilled performance & motor learning
• Biomechanical analysis in human movement
• Exercise physiology
• Human nutrition
Kinesiology & Health Science Career Paths

• Regulated health professions (with further education)
  – Medicine, OT, PT, Chiropractic, Kinesiologist
• Teaching & Education
• Government: municipal, provincial, federal
  – community centres, Parks & Recreation
  – “Health promotion”: policy, public health
• Sport or Physical Activity Program Management
• Fitness or health-related industries
• Graduate degrees in Kinesiology & Health Science
• Research
Career Plans

Teacher
Health Practitioner
Fitness Professional
Coach
Kinesiologist
Entrepreneur
Administrator
Researcher
Other

% of Respondents

(based on task force survey)
Honours BA or Honours BSc

• 120 credits and generally 4 years for both
• 12 core mandatory Kinesiology courses the same
• Additional electives determine if it is Hon BA or Hon BSc
Undergraduate Program

Physical Activity Practica (PKIN’s)

• 8 PKIN courses required
• most are 2 credit: 2 hours/week
• non-fee
• graded
• not part of GPA
• above 120 credit Honours program
• must take minimum 1 course in each of:
  – aquatics
  – team games/sports
  – individual/dual sports
  – dance/gymnastics
  – track and field
  – emergency care
Graduate Program

- Specialization Areas:
  - Integrative Physiology
  - Neuroscience
  - Health and Fitness Behaviours
Differences in a functional network for eye-hand coordination in females versus males

Degradation of eye-hand coordination in early stage Alzheimer's patients

Basic mechanisms for the control of object interaction

Measurement of movement kinematics and dynamics

Sex- and experience-related differences in skilled performance (elite vs non-elite athletes)
Cross-section of skeletal muscle, labelled with a protein that outlines muscle cells and capillaries. More capillaries surrounding muscle fibres means better muscle endurance and improved health. What determines the number of capillaries around muscle fibres, and how can we increase this number?
Professors’ Research Expertise: An Overview

• Neural control of skeletal muscle and motor activity
• Role of cell cycle in muscle and breast cancer development
• Vascular angiogenesis in exercise and disease
• Skeletal and cardiac muscle biochemistry
• Exercise and stress effects in diabetes
• Neuroimaging and motor control rehabilitation
• Biomechanics of human injury and rehabilitation
• Epidemiology and prevention of childhood injuries
• Physical activity patterns across the lifespan
• Fitness assessments of various population groups
• Behavioural cardiology and cardiac rehabilitation
• Health behaviour change in prevention and treatment of chronic disease
Professors’ Research Expertise (cont’d)

• Adipokines contribution to carbohydrate and lipid metabolism and insulin resistance
• Muscle stem cell development in exercise and disease
• Spatial perception
• Repetitive strain injury
• Psychological factors in sport injuries
• Epidemiology of chronic diseases
• Eating disorders
• Chronic pain and health
• Race and gender in sport and society
• Vaccine programs in developing countries
• Physical activity and successful aging
• Autism biomarkers
• Nutritional supplements & performance
• Exercise pharmacology
York’s School of Kinesiology & Health Science

“Canada’s leading academic centre for knowledge creation, integration & dissemination about physical activity and its importance for human health, health science, & society.”
Vision Roadmap

Canada’s leading academic centre for knowledge creation, integration & dissemination about physical activity & its importance for human health, health science & society.

- Innovative Research
- Inspiring Students
- Leadership
- Managing Ourselves

2008: •A •B •C
2009: •A •B •C
2010: •A •B •C
2011: •A •B •C
2012: •A •B •C
“Canada’s leading academic centre for knowledge creation, integration and dissemination about Physical Activity and its importance for human health, health science and society.”

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Strategy</th>
<th>Decision Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>•Funding •Collaboration •Industry interest •Public Interest •Distinctions for our faculty members</td>
<td>•Collaborative proposals encouraged or not? •Is the association with Sport &amp; Rec +ve, -ve, neutral?</td>
</tr>
</tbody>
</table>
| Traditional indicators of external credibility:  
- Funding  
- Appointments & distinctions for our faculty members  
- Public interest  
- Industry interest  
- Donor interest | | |
| B          | •Use central graduate student funding support to prioritize areas of support | What areas? When? |
| Quality of grad students & post docs | | |
| C          | •Seek and support interdisciplinary research  
•Encourage university to establish incentives for inter-departmental and inter-Faculty collaboration  
•Become better informed about what others are doing outside of the School | Incentives for interdisciplinary research? |
| Impact of the research | | |
"Canada’s leading academic centre for knowledge creation, integration and dissemination about Physical Activity and its importance for human health, health science and society."

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<tr>
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<th>Strategy</th>
<th>Identification of Potential Decisions</th>
</tr>
</thead>
</table>
| **A**      | • Surveys:  
- Exit surveys for undergrad & grad students  
- In-program surveys (annual but rotating among programs)  
- NSSE data  
• Provide opportunities for engagement  
• Engender pride in the program | • Current certificates appropriate & adequate?  
• Core + concentrations?  
• Evaluate role and nature of PKINs and whether concentrations should require varying types & total PKIN credits |
| **B**      | • Access data to compare our incoming students with: other York departments & other universities |  |
| **C**      | • Integration of undergrad & grad program themes  
• Surveys  
• Student co-authors  
• Travel grants for conference attendance (graduate & undergraduate) |  |
Leadership

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</thead>
</table>
| **A** People in positions of leadership | • Target specific organizations / activities  
• External: granting agencies, prof & int'l orgs, gov’t advisory groups  
• Internal to York: administrative, faculty, staff & student orgs | • Which ones?  
• Who? |
| **B** Academic recognition | • Meet CCUPEKA accreditation norms  
• Ontario College of Kinesiology  
• Attract “101s” with higher entry GPA | • Go for accreditation?  
• Ensure graduates have opportunity to meet academic requirements for OCK certification |
| **C** Traditional indicators of academic & research leadership | • School involvement in conference organization  
• Media attention  
• PR: media kits, OpEd pieces | How?  
What?  
Who?  
When? |
| **D** Knowledge Transfer | • Develop a “knowledge integration” strategy  
• Participate in professional, gov’t & int’l orgs  
• Public presentations, workshops, conferences | • External relationships: which ones? |
Managing Ourselves

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<th>Strategy</th>
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</tr>
</thead>
</table>
| **A**     | Level of satisfaction with services & support | • Requirements analysis  
            • Supports and gives priority to achieving School Vision | • Adjust staffing levels?  
            • Adjust job descriptions  
            • Balance of support & academic positions?  
            • Performance reviews |
| **B**     | Satisfaction with governance structures | • Review governance  
            • Supports and gives priority to achieving School Vision | • # of committees?  
            • Membership? |
| **C**     | Satisfaction with T&P criteria | • Core committee to review and recommend to Council  
            • Supports and gives priority to achieving School Vision | • Discipline-related criteria |
| **D**     | Improved level of engagement and sense of “ownership” of School’s future | • Internal communications:  
            • Supports and gives priority to achieving School Vision  
            • “Depts within the School” (tied to academic “streams”)?  
            • Leadership training for faculty, staff, & students  
            • Increase involvement of KAHSO | • Regular synopsis reports posted by UPD, GPD, Director Sport & Rec, Chair  
            • Association or dissociation of academic and Sport & Rec program |
Lead continuing implementation of the School’s 4-year Vision Implementation Plan (VIP).

Seek, prepare for, and undergo the accreditation review process of our Specialized Honours BA and Honours BSc degrees by the Canadian Council of University Physical Education & Kinesiology Administrators (CCUPEKA).

Complete a review of current undergraduate “certificate” offerings and make recommendations to either maintain status quo or change.

Complete a review of Information Technology Support to the School with a view to improving efficiencies and effectiveness.

Complete a review and make recommendations about the organizational / administrative relationship of the School with the university-wide Sport & Recreation program.
York’s School of Kinesiology & Health Science

“Canada’s leading academic centre for knowledge creation, integration & dissemination about **physical activity** and its importance for human health, health science, & society.”