

THE UNIVERSITY OF BRITISH COLUMBIA



OKANAGAN SENATE SECRETARIAT

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May 19, 2011

To: Okanagan Senate

From: Academic Policy Committee

Subject: Establishment of the *School of Health and Exercise Sciences* within the Faculty of Health and Social Development (approval)

The Academic Policy Committee has reviewed the final proposal for the establishment of the *School of Health and Exercise Sciences* within the Faculty of Health and Social Development and is pleased to recommend the following:

Motion: That Senate approve and recommend to the Board of Governors the establishment of the School of Health and Exercise Sciences within the Faculty of Health and Social Development, effective July 1, 2011;

That the administration of the Bachelor of Arts in Health Studies program and the Bachelor of Human Kinetics program be transferred to the School of Health and Exercise Sciences from the administration of the Faculty of Health and Social Development;

That all courses under subject codes HEAL and HMKM be transferred to the administration of the School of Health and Exercise Sciences from the administration of the Faculty of Health and Social Development; and

That Senate recommend to the Board of Governors that faculty members with current appointments within the Faculty of Health and Social Development excluding those with appointments in the constituent schools of Nursing and Social Work have their appointments transferred to the School of Health and Exercise Sciences.

For the Committee
Dr. Jan Cioe
Chair, Academic Policy Committee

School of Health and Exercise Sciences

Overview

The programs in Health Studies and Human Kinetics were conceived under the guidance of Dr. Joan Bottorff and began student intake in 2006 and 2007 respectively. Prior to the formation of these programs an extensive market survey was performed to assess demand and strategic market placement. Due to the historical and predicted growth of faculty/student numbers and the emerging graduate area examining Health and Exercise these two programs have been functionally operating as a single unit for the last 2 academic years. In this proposal we make the case for the formation of a new administrative unit - the School of Health and Exercise Sciences – with the purpose of:

- Overseeing the continued operations of the Bachelor in Human Kinetics undergraduate degree program
- Directing cessation of the Health Studies program and its migration into a sustainable minor in Health.
- Supporting the current Health and Exercise Sciences Theme in IGS and to pursue an independent graduate program as resources and demand dictate.
- Managing the budget, human resources, and infrastructure needs of ongoing and new programs in Health and Exercise Sciences at UBC Okanagan.

Beyond these administrative functions the faculty within the existing units see the new school pursuing the scholarly mission:

To optimize human health, from the individual to the population, through excellence in interdisciplinary teaching, research, community engagement. This will be achieved through academic pursuits in:

- *Neuromuscular Physiology and Control*
- *Exercise and Health Behaviour*
- *Cardiovascular and Respiratory Physiology*
- *Population Health and Health Services Research*
- *Nutrition and Health Education*

Program Status

Bachelor of Human Kinetics

The program was designed to offer two undergraduate specializations: Clinical Exercise Physiology and Health Promotion. It was the vision of the steering committee that designed these programs to situate the UBC-Okanagan program as the Human Kinetics (and Kinesiology) program in Canada to fully embrace the employer needs for Health Professionals in Exercise Science. Specifically, the programs were intended to (a) satisfy CCUPEKA accreditation for Kinesiology programs, (b) qualify graduating students for CSEP Exercise Physiologist certification, (c) align with upcoming licensing guidelines, and (d) provide a significant practical and professional component missing from most programs nationally.

The current programming in Human Kinetics trains students for career paths and further degree pursuit in the Allied Health Science (e.g., Medicine, Physiotherapy), Civic and Corporate Health Promotion and is pursuing avenues for graduates in Education.

Bachelor of Arts in Health Studies

Students were offered two specializations: Health Policy and Evaluation or Health and Sustainability. Students in the Health Policy and Evaluation stream were to have the opportunity to study the determinants of human health, institutional, political and power relationships that influence those determinants, the formation and implementation of public policies relevant to determinants of health,

health economics, health technology assessment and the use and abuse of evidence in policy making. Students in the Health and Sustainability stream will study population health, demographic and social determinants of health, the health of vulnerable populations, and health and aging within the context of sustainability at the local, national and global levels.

The Health Studies Program has had its intake suspended and is currently pursuing the completion of all in-program students. Based on student and faculty interest a minor in Health will be proposed to provide the breadth of the Health Studies programming to the broader university community.

Undergraduate Curriculum & Enrolment

In the 2007-08 academic year, 67 students were enrolled in Human Kinetics. Intake increased for the 2008-09 academic year to 89; due to inter- and intra university transfers, first year classes ranged from 110-120. Similarly, the second year cohort for 2008-09 expanded to 70-75; HMKN 2xx courses ranged from 80-90. The intake for the 2010-11 academic year was 160; based on transfer students and mixed cohorts, year sizes are currently 140 (1st yr), 110 (2nd yr), 90 (3rd yr), 55 (4th yr). The enrolment target for intake 2011 is 200; this will result in an immediate program size of 540 students in 2011-12 and a projected steady-state program size of 900.

Graduate Curriculum and Enrolment

Currently graduate studies in Human Kinetics are pursued under the auspices of the Health and Exercise Sciences Theme in the Interdisciplinary Graduate Program. As such, degree programs are largely limited to IGS-Special Topics offerings with the addition of HMKN 501 (Colloquium) for 2010. As of Sept 2010, graduate enrolment (i.e. directly supervised by Health and Human Kinetics) consisted of 7 MSc, 9 PhD in various programs (IGS and other) at UBC. We anticipate an intake of 12 new students under the HES theme for 2011-12.

Full Time Faculty

The current combined faculty complement for Human Kinetics and Health Studies is 10 FTE (3 Tenured Assoc, 6 Tenure-Track Assistants, 1 Tenure-Track Instructor). Approval has been received for 4 additional FTE to be hired 2011-12 (1 Full, 1 Associate, 1 Assistant, 1 Instructor). For the 2010-11 academic year, the combined student/FTE ratio for Health Studies and Human Kinetics is 34:1; the successful attraction of 4 new FTE in combination with the projected increased intake will preserve this ratio. In the 2010-11 academic year the Human Kinetics and Health units employed an additional 8 sessional instructors to address curricular demand.

Accreditation

The national accreditation body for Kinesiology/Human Kinetics programs is the Canadian Council of University Physical Education and Kinesiology Administrators (CCUPEKA). By attaining accreditation with this body, graduates from the new School of Health and Exercise Sciences will be eligible write a variety of certification examinations. Accreditation also directly associates the unit to BCPEKA, the British Columbia articulation cooperative for Kinesiology/Human Kinetics programs. As an applying unit, the new School must demonstrate sufficient curricular breadth/depth and display adequate infrastructure and personnel resources; applications are only admissible following the graduation at least one class. Although the present faculty complement and degree curriculum do indeed satisfy the base needs, the absence of a autonomous university unit and the lack of an independent graduate program will raise questions as to the long-term commitment and therefore sustainability of the program. Although still in formation, the College of Kinesiologists is currently being formed in Ontario – with similar legislated bodies being promoted in most province; the new School will similarly pursue accreditation with these licensing bodies where appropriate.

Full Time Tenure-Track Faculty

Phil Ainslie, Ph.D. (Associate Professor) Hypoxia and vascular function (high altitude, exercise, central and obstructive sleep apnea), physical activity, aging and vascular function, orthostatic stress and syncope (with focus on exercise, heat stress, spinal cord-injury, age and heart disease)

Gord Binsted (Associate Professor and Unit Head): sensorimotor neuroscience, feedback control, movement disorders of the central nervous system, cortical function during movement, computational neuroscience, Alzheimer's disease, Multiple Sclerosis

Cristina Caperchione, Ph.D. (Assistant Professor): Physical activity promotion in culturally and linguistically diverse populations, health promotion, Web 2.0 for promoting physical activity, strategies for supporting lifestyle risk modification

Alan Davidson, Ph.D. (Associate Professor): Comparative health policy and health care systems, privatization of health care, rural health care, social epidemiology, health and social justice

Neil Eves, Ph.D. (Assistant Professor): Physiological responses to exercise, COPD, dyspnea during exertion, cardio-respiratory disorders, inflammatory responses associated with acute and chronic exercise, respiratory physiology

Jennifer Jakobi, Ph.D. (Assistant Professor) Age-related and sex-related change in motor unit recruitment and discharge rates, Role of afferent feedback in modulating motor unit activity, Prolonging Functional Independence in Older Women, Mechanism of Whole Body Vibration in enhancing functional performance

Gareth Jones, Ph.D. (Assistant Professor) Prehabilitation and rehabilitation needs of frail older adults and those with neurological disorders such as Parkinson's disease, sarcopenic obesity in functional decline and frailty, built environment and its influence on successful aging

Mary Jung, Ph.D. (Assistant Professor) Self-regulation of health behaviours, promotion and adherence to physical activity and healthy diets, psychological processes involved in weight loss, establishing a healthy body image, developing a strong sense of exercise identity, and adhering to a cardiac rehabilitation program.

Colin Reid, Ph.D. (Assistant Professor): Quality of care and outcomes for institutionalized seniors with dementia, Health services research with a focus on seniors populations, Health and seniors in rural areas

Sally Willis-Stewart, Ph.D. (Instructor) Nutrition and physical activity, health promotion and interdisciplinary approaches to prevention and care through healthy lifestyles, bone health, life span and women's health.

Adjunct Faculty

Anne-Marie Broemeling, Ph.D.

Adjunct Professor, Director of Information Support & Research, Interior Health Authority

Tom Fulton, MSc

Adjunct Professor, Leader and Chief Nursing Officer, Interior Health Authority

Paul Hasselback, MD, MSc, FRCPC

Medical Health Officer Okanagan, Interior Health Authority

Current Course Offerings

Health Studies

HEAL 100 (3) Introduction to Health Studies

Introduction to health and health services in Canada; general orientation to the theories of health, health research, and policy; issues facing the health of Canadians. [3-0-0]

HEAL 200 (3) Determinants of Health

Examining the relationships between biological, psychological, social, and economic factors to understand inequities in health outcomes for different individuals and populations. [3-0-0]

Prerequisite: Second-year standing.

HEAL 201 (3) Canadian Health Care System

Medical, hospital, community health, and long-term care in Canada, including the evolution of health and hospital insurance policies, efforts to renew the Canadian health care system, innovations in primary health care, and current issues confronting health providers and policy makers. [3-0-0]

Prerequisite: Second-year standing.

HEAL 213 (3) Health and Social Policy in Canada

Analysis of major health and social policies in Canada; comparative analysis of the evolution of the contemporary welfare state; review of federal and provincial policies in the areas of housing, employment, income, support for children and families, hospitals, medical care, and community health services. [3-0-0]

Prerequisite: Second-year standing.

HEAL 300 (3) Methods of Data Analysis

Introduction to basic statistics and methods relevant to the analysis and interpretation of quantitative data pertaining to health and social well-being. [3-0-0]

Prerequisite: Second-year standing in Health Studies or Human Kinetics.

HEAL 301 (3) Health Research Methods

Introduction to the research methods commonly encountered in health research, including quantitative and qualitative designs; provides a basis for comprehending more fully the research literature relevant to health studies. [3-0-0]

Prerequisite: Second-year standing in Health Studies or Human Kinetics.

HEAL 302 (3) Health Policy and Politics

Health policy formation and implementation across the affluent democratic states. The role of politics in defining policy problems and finding politically feasible solutions. [3-0-0]

Prerequisite: HEAL 201.

HEAL 303 (3) Health Program Evaluation

Introduction to the key concepts and methods used in evaluation of health programs. [3-0-0]

Prerequisite: HEAL 300.

HEAL 304 (3) Healthy and Sustainable Communities

Examination of the interrelationships between social and environmental factors and contexts, and the health of individuals, communities, and populations. [3-0-0]

Prerequisite: HEAL 100 and third-year standing.

HEAL 305 (3) Healthy Aging

Health priorities for the elderly and intersectoral initiatives to positively influence physical, mental, and social well-being and functioning. [3-0-0]

Prerequisite: HEAL 100 and third-year standing.

HEAL 306 (3) Indigenous Peoples and Health

Critical investigation of Indigenous people's health, including how colonization impacts well-being, the role of traditional knowledge in health care and Indigenous health systems, and methods informing Indigenous health care policy. [3-0-0]

Prerequisite: Third-year standing.

HEAL 307 (3) Global Health Trends and Local Impacts

Global health trends within and across countries and regions and how these global realities affect health and health care locally. [3-0-0]

Prerequisite: HEAL 100 and third-year standing.

HEAL 308 (3) Health Law

Overview of the sources of law and critical perspectives on legal regulation of the health care enterprise. [3-0-0]

Prerequisite: Third-year standing.

HEAL 313 (3) Health Economics

Introduction to economic thinking and techniques used in analyzing and planning health policy, particularly the delivery of health services. [3-0-0]

Prerequisite: Third-year standing and permission of the instructor.

HEAL 400 (3) Reducing Health Disparities Across Vulnerable Populations

Synthesizing acquired knowledge and competencies to solve a problem related to socio-economic, gender-related, and/or geographic inequalities in health and promote equity for vulnerable populations. [3-0-0]

Prerequisite: Fourth-year standing.

Corequisite: HEAL 450.

HEAL 401 (3) Health Leadership and Effecting Change

Examines the complex range of organizational, ethical, and professional factors associated with managing or supervising personnel in health and social service agencies, and develops students' ability to influence constructive change from staff positions within complex organizations. [3-0-0]

Prerequisite: Third-year standing.

HEAL 403 (3) Public Health, Ethics, and Human Rights

Introduction to theoretical and practical aspects of ethics and public health, with a focus on developing analytical skills to evaluate ethical issues related to public health issues. Equity and human rights will be addressed. [3-0-0]

Prerequisite: Third-year standing.

HEAL 404 (3) Sustainability and Health Care Reform

Synthesizing and applying the knowledge and competencies acquired through coursework to analyze a health care issue and develop innovative solutions that reflect the need to support sustainable health care reform. This is a capstone course. [0-0-3]

Prerequisite: Fourth-year standing.

Corequisite: HEAL 450.

HEAL 450 (3) Health Studies Practicum

Provides opportunities for students to apply and consolidate knowledge and skills by working in community settings. [0-6-0]

Corequisite: One of HEAL 400, HEAL 404.

HEAL 495 (3) Topics in Health Studies

Examination of selected topics and issues in health studies. May be taken more than once for credit. [0-0-3]

Prerequisite: Third-year standing.

HEAL 496 (3/9) d Topics in Aging and Health

Examination of topics that bring together theoretical, methodological, and analytical concepts. Potential topic areas could include informal and formal health service provision for seniors and health disparities in aging populations.

Prerequisite: Third-year standing

Human Kinetics

HMKN 100 (3) Health, Fitness, and Lifestyle

The importance of exercise, fitness, physical activity, healthy eating, and other health behaviours across the lifespan. Principles of basic exercise prescription, fitness appraisal, behaviour change, and other positive health approaches; implications for personal health/quality of life, professional success, health care. [3-3-0]

HMKN 101 (3) Biomechanics

Application of the elementary principles of physics and math to quantitative analysis of human movement. Analysis will also focus on the development of forces within muscles and their effect on initiating and controlling human movement (pertaining to exercise, physical activity, and rehabilitation). [3-0-0]

HMKN 102 (3) Physical Activity in Canadian Society

Introduction to the role, history, and social basis of physical activity in society; concepts, theories, and links to health. [3-0-0]

HMKN 190 (3) Functional Anatomy and Applied Physiology I

Structure and function of the neuromuscular and skeletal systems of the human body. Special emphasis on movement analysis and the physiological effects of exercise. [3-2-0]

HMKN 191 (3) Functional Anatomy and Applied Physiology II

Structure and function of the digestive, endocrine, urinary, circulatory and respiratory systems. Special emphasis on the effects of exercise. [3-2-0]

HMKN 200 (3) Exercise Physiology I

Acute and chronic changes observed in physiological systems as a result of exercise and exercise training. Aerobic and anaerobic metabolism during exercise and cardiovascular, respiratory and muscular responses to physical activity. [3-2-0]

Prerequisite: All of BIOL 131, BIOL 133 or equivalent.

HMKN 201 (3) Exercise Psychology I

Psychological theories and research related to exercise adoption, maintenance, and avoidance. Psychological antecedents and consequences of exercise behaviour. [3-0-0]

HMKN 202 (3) Human Motor Behaviour I

Processes and structures underlying the production human movement. Sensory, motor and cognitive factors influencing the learning, execution, and control of action will be addressed. [3-0-0]

HMKN 203 (3) Lifespan Physical and Motor Development

Principles governing physical growth and motor development related to physical activity. Lifespan changes, including aging, and their impact on physical activity participation and performance. [3-0-0]

Prerequisite: All of BIOL 131, BIOL 133 or equivalent.

HMKN 310 (3) Exercise Physiology II

Oxygen transport and vascular response during exercise in humans. Regulation and adaptation of the cardiovascular and respiratory systems during exercise. [3-2-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 311 (3) Exercise Prescription

Exercise prescription and testing for both the healthy adult population and for special populations or persons with a disability. [3-0-1]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 312 (3) Laboratory Techniques in Exercise Science

Current methods in exercise science will be demonstrated via modules presented by faculty in their areas of specialization including electrophysiological techniques and methods of assessing blood-flow, respiratory capacity, and muscle function. [2-3-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 313 (3) Exercise Metabolism

The underlying metabolic events associated with exercise and nutritional challenges. Substrate delivery and skeletal muscle metabolism with respect to exercise. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 314 (3) Body Composition

Body composition, with particular emphasis on the influence of physical (in)activity. Techniques for measuring the amounts of adipose tissue, muscle, and bone in the body. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 315 (3) Sensory and Motor Neuroscience

How single neurons and populations of neurons represent sensory information, how sensory signals are transformed and decoded to mediate perception, and how perceptual signals are converted into neural commands to initiate actions. [3-2-0]

HMKN 320 (3) Health Education: Theory and Practice

Explains the importance of health behaviour as a contributor to public health problems and the role of health education and health promotion programs in addressing them. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 321 (3) Exercise Psychology II

Expansion on theoretical and practical knowledge of exercise psychology. Emphasis on theoretical basis of applied exercise psychology and the development of practical skills that can be employed as fitness professionals. [3-1-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 322 (3) Health Promotion I

Design and implementation of health promotion strategies in a variety of arenas, particularly health promotion/education strategies aimed at encouraging physical activity. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 323 (3) Introduction to Nutrition

Nutrients, nutrient food sources and functions in the body, application to planning adequate diet throughout the lifespan. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 331 (3) Physical Dimensions of Aging

Changes in physiological function with age. For students planning to become health professionals. Various dimensions of life, including health and functional capacity, are addressed. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 400 (3) Ethics for Health Practitioners

Ethics and Canadian law relating to consent, negligence, record keeping, trust and confidentiality, standards of care, professionalism, beneficence and non-maleficence, the just distribution of health care resources, and responsibility for health outcomes. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 401 (3-9) d Community Placement Experience

Practical work experience in a supervised health/human kinetics related work setting with a cooperating agency, private business, or industry. [0-10-0]

Prerequisite: Fourth-year standing in Human Kinetics and permission of the Undergraduate Chair.

HMKN 410 (3) Cardio-Respiratory Disease: Pathology to Prescription

Common cardio-respiratory diseases of the adult, including acute and chronic disorders. Respiratory diagnostics, therapeutics, and exercise interventions applied to these disorders. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 411 (3) Environmental Physiology

Regulation and adaptation of the cardiovascular, circulatory, and respiratory systems during environmental extremes. [3-0-0]

Prerequisite: All of HMKN 310, HMKN 312.

HMKN 412 (3) Neuromuscular Physiology

Integrated actions of the neural, somatosensory, and motor systems underlying human movement in healthy, diseased, and aged individuals. Emphasis will be placed upon motor unit physiology, reflexes, and the descending motor system. [3-0-0]

Prerequisite: All of HMKN 310, HMKN 312.

HMKN 413 (3) Cortical Control of Movement

Cortical events associated with sensation and motor planning associated with goal-directed movement. Particular focus on plasticity associated with disease and injury. [3-0-0]

Prerequisite: Third-year standing in Human Kinetics.

HMKN 414 (3) Advanced Circulatory Physiology

Regulation and adaptation of the circulatory systems at rest, during exercise. Focus on adaptations and prescription implications following pathology. [0-0-3]

Prerequisite: All of HMKN 310, HMKN 312.

HMKN 421 (3) Advanced Theories of Health Behaviour Change

Advanced theories in health and exercise psychology and their critical evaluation regarding utility for instilling and sustaining health behaviour change. [3-0-0]

HMKN 422 (3) Health Promotion II: Applications

Advanced strategies for health promotion in various arenas, particularly health education and communication aimed at encouraging physical activity. [0-0-3]

Prerequisite: HMKN 322 and third-year standing in Human Kinetics.

HMKN 423 (3) Applied Nutrition: Exercise and Chronic Disease

Application of principles of nutrition to chronic disease and exercise. Practical considerations of prescription toward sport performance and disease prevention. [3-0-0]

Prerequisite: HMKN 323.

HMKN 431 (3) Exercise Rehabilitation for Clinical Disorders of Aging

Consideration of disabilities and pathologies associated with aging. Particular focus on physiological changes and how they affect quality of life and activities of daily living. [0-0-3]

Prerequisite: HMKN 331.

HMKN 499 (3-9) Project in Human Kinetics

Provides opportunities to perform research pertaining to a chosen area of Human Kinetics as agreed upon by a faculty member and student. [0-10-0]

Prerequisite: Third-year standing in Human Kinetics and permission of the Undergraduate Chair.

HMKN 501 (3) Colloquium in Health and Exercise Sciences

Seminar examining current topics, controversies, and arising research trends in health and exercise sciences. [0-0-3]

HINT 523 (3) Nutrition Applications: Chronic Disease, Sports, and Consulting

Seminar examining the application of nutritional prescriptive and consulting practices to both clinical and athletic situations. Special focus will be given to current controversies and research trends. [0-0-3]