



Senate Committee on Academic Development

Report to Senate – Meeting of April 23, 2009

Proposal to introduce the Drug Development and Human Toxicology (DDHT) stream in the existing Bachelor of Science in Life Sciences in the Faculty of Arts and Science

Introduction

The proposal to introduce the Drug Development and Human Toxicology (DDHT) stream in the existing Bachelor of Science in Life Sciences in the Faculty of Arts and Science was reviewed by the Senate Committee on Academic Development (SCAD) at its meeting April 1, 2009. T. Massey, Department Head in the Department of Pharmacology and Toxicology, and M. Adams, Undergraduate Chair in the Department of Pharmacology and Toxicology, attended the SCAD meeting to speak to the proposal and answer questions from members of SCAD. Members of SCAD were also provided with the Program Approval Submission Form, which outlines the major components of the proposal. A copy of the proposal is attached to this report.

Analysis and Discussion

The following should be noted:

- many graduates of the Life Sciences program enter industry or government well trained, however, the graduates feel they are lacking in experience related to the drug discovery process;
- Health Canada and the pharmaceutical industry have both confirmed that having graduates with experience in this area would be beneficial;
- the proposed DDHT stream would admit a maximum of 16 student who would enter the stream in fourth year and build on their existing Life Sciences training;
- the proposed stream will be based on existing courses and two new ½ courses in Drug Discovery and Drug Development and Human Toxicology;
- the proposed stream will admit 2/3 students currently studying in the Honours Life Sciences Research stream and 1/3 students from the existing Life Science program to benefit from cross fertilization and add to the learning experience;
- graduates will pursue careers in government, biotechnology, and pharmaceutical and will be better prepared to enter graduate or professional school.

Conclusions/Recommendation

Recommendation:

On academic grounds, SCAD recommends that Senate approve the establishment of the new Drug Development and Human Toxicology (DDHT) stream in the existing Bachelor of Science in Life Sciences Research Stream in the Faculty of Arts and Science to commence in September 2009.

Respectfully submitted,



Patrick Deane

Chair, Senate Committee on Academic Development

Committee Members:

Members

C. Baker
J. Coates
P. Deane (Chair)
M. Hoidas
M. Lombardi
D. McKeown
K. O'Brien (Secretary)
P. Oosthuizen
M. Roberts
D. Stockley
M. Whitehead



Senate Budget Review Committee

Report to Senate – April 9, 2009

Proposal to establish a Drug Development and Toxicology Stream in the Life Sciences Program.

Introduction

On April 9, 2009, the Senate Budget Review Committee (SBRC) met to discuss the Proposal to establish a Drug Development and Toxicology Stream in the Life Sciences Program.

Analysis and Discussion

T. Massey (Head, Department of Pharmacology and Toxicology) informed the committee that the new stream would include 2 new 4th year courses. Although administered by the Department of Pharmacology and Toxicology the courses will be “Team Taught” so the teaching load will not fall on one individual. The team will consist of faculty members from several departments (including Chemistry, Chemical Engineering, Biochemistry, Pharmacology and Toxicology) and industry. The new stream will combine new learning opportunities in both drug development and safety practices and principles.

Conclusions/Recommendation

Members of the committee saw no major resource implications with the proposed program and voted unanimously to recommend to Senate that they approve the Proposal to Establish a Drug Development and Toxicology Stream in the Life Sciences Program.

Respectfully submitted,

J. Medves,
Chair, Senate Budget Review Committee

Committee Members:

H. Averbs

K. Brock

F. Davis

D. Hallett

J. Helland

D. Janiec

M. Koichopolos

M. Lombardi

J. Medves (Chair)

G. Willmott

I. Young



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Memo

TO Patrick Deane, Chair, SCAD
Jennifer Medves, Chair SBRC
FROM Georgina Moore, Secretary of the Senate
DATE March 11, 2009
SUBJECT Proposed New Program in Life Sciences – Drug Development
and Human Toxicology Research

The attached proposal has been submitted to the Senate by the Faculty of Arts and Science and is referred to SCAD and Budget Review for approval. The proposed **Drug Development and Human Toxicology (DDHT)** stream, which will be built on the existing Bachelor of Science in Life Sciences, was approved by the Faculty of Arts and Science Faculty Board on February 13, 2009.

Please review the proposal and report back to Senate with your committee's recommendation. Professor Thomas Massey, Head, Department of Pharmacology & Toxicology (ext. 36106, email masseyt@queensu.ca), should be contacted if you have any questions or if you would like him to attend a committee meeting. Please contact him directly.

Thank you for your attention to this matter.

Georgina Moore
Secretary of the Senate

copy: K. O'Brien, Secretary, SCAD + copy of Proposal
B. Cooke, Secretary, SBRC + copy of Proposal
A. MacLean, Dean, Faculty of Arts and Science
T. Massey, Department of Pharmacology & Toxicology

Senate Referral File
ATT:

Senate Committee on Academic Development
and
Senate Budget Review Committee

Program Approval Submission 2008-09

all
approved
09.01.27
Web
Summary
09.02.06

This form is to be used when seeking approval for all new or substantially revised programs of study leading to a degree, diploma or certificate

FACULTY/SCHOOL: ARTS AND SCIENCE

PROPOSED NEW PROGRAM: LIFE SCIENCES-DRUG DEVELOPMENT AND HUMAN TOXICOLOGY
RESEARCH STREAM , DDHT

PROPOSED IMPLEMENTATION DATE: SEPTEMBER 2009


DATE OF FACULTY BOARD APPROVAL: 13 February 2009

SUBMISSION CONTACT

NAME: Dr. Thomas E. Massey, Head, Dept. Pharmacology & Toxicology

TELEPHONE: 613-533-6106 _____

EMAIL: masseyt@queensu.ca _____

SIGNATURE OF THE DEAN:  DATE: Dec 4/08

Please note that program proposals must receive the approval of Faculty Board prior to being submitted to the Senate Office for referral to the Senate Committee on Academic Development (SCAD) and the Senate Budget Review Committee (SBRC), which will then make their recommendations to Senate.

The criteria requested in PART A should be regarded as the minimum criteria for the assessment of academic programs. Any unit planning a new program should show how not only the criteria listed below but also, where appropriate, those required by the Undergraduate Program Review Audit Committee and those of the Ministry of Training, Colleges & Universities have been taken into account. For further information, please refer to the Senate Policy "Policies and Procedures for Establishing New Undergraduate Programs" (<http://www.queensu.ca/secretariat/senate/policies/newprog/index.html>)

4/09
09.01.12

PART A

1. OBJECTIVES:

Please summarize the rationale for introducing this program. The program should be consistent with the Queen's mission, the academic plans of the unit including its teaching and research strengths, the relation of the unit with other academic units and the standards, educational goals and learning objectives of the degree. Explain how this program will achieve the expected academic quality. Please identify the Faculty, School or Department, which will be administratively responsible for the academic aspects of this program such as supervision of graduate students, curriculum development and the Internal Academic Review Process.

The proposed **Drug Development and Human Toxicology (DDHT)** stream would build on the existing Bachelor of Science in Life Sciences (SSP, Life Sciences) offered by the Departments of the Faculty of Health Sciences (Anatomy and Cell Biology, Microbiology and Immunology, Pathology, Pharmacology and Toxicology, and Physiology) and the collaboration of the School of Kinesiology and Health Studies, the Department of Biochemistry and the Protein Function and Discovery Program.

In its current format, the Life Sciences Curriculum provides a broad background in the life sciences and allows opportunities for intensive study in a particular discipline during the final year. This program equips graduates with a comprehensive base for advanced study in any of the areas represented by the participating and collaborating departments, as well as for other fields.

The proposed DDHT Stream will add to this curriculum by providing students with the opportunity for enriched study in the fields of drug discovery and development as well as pharmacology, toxicology and therapeutics, with a selection of courses complementing the B.Sc. in Life Sciences. The new concentrations will thus be instrumental in better preparing students intending to proceed to career options that rely on this kind of specialized training.

2. ADMISSION REQUIREMENTS:

The admission requirements (preparation and achievement) should be appropriate for the learning objectives of the program and the institution to ensure the appropriate quality of student applicants. In no case should admission requirements be lower than the published minimum standards for the University. Indicators of student demand including applications, registrations, projected enrolment levels, and of the quality of students must be considered. Where admission is competitive, actual admission requirements may be higher than the published minimum standards. Information about anticipated enrolments should also be included.

Students will enter the DDHT Research Stream in Year 4. Acceptance into the DDHT Stream will be based on the same criteria as admission to the Honours Life Sciences Research Stream. In addition, since the number of positions available will be limited, admission will be based on overall academic performance in 3rd year Life Science core courses and in PHAR 340*. A maximum of 16 students will be admitted to the program, from the existing complement of Life Science students (currently approximately 220 in 2nd year).

3. **CURRICULUM:**

Provide a detailed overview of the proposed program, along with the proposed *Calendar* description. Details such as course requirements (core, supporting, recommended, optional courses), prerequisites, problems students may encounter and new courses being proposed for the program should be included. The structure and curriculum of the program should be appropriate for its learning objectives.

I. Below is a proposed program of study for the **B.Sc. Life Sciences SSP Research Stream, with DDHT enrichment.**

LIFE SCIENCES/DDHT STREAM CORE COURSES (14.5 credits)

YEAR 1: BIOL 102* and 103*; CHEM 112; MATH 122 (or MATH 121); PHYS 107 or 106 or 104.

(4.0 credits)

YEAR 2: ANAT 215*, ANAT 216*; BIOL 205*; CHEM 281* and CHEM 282*; MICR 221*; PHGY 212; STAT 263* or equivalent (in second, third or fourth year).

(4.5 credits)

YEAR 3: BCHM 310; MBIO 218* (or MBIO 318*) (in second or third year); PHAR 340*; and one of MICR 320*, 360*, 433*, 435*, 436*, 450*, 451* (in third or fourth year).

(2.5 credits)

YEAR 4: DDHT 459* (new course, see below), DDHT 460* (new course, see below); PHAR 416*, PHAR 450*; and one of ANAT 499, CANC 499, EPID 499, LISC 499, MICR 499, NSCI 499, PATH 499, PHAR 499, PHGY 499.

(3.5 credits)

LIFE SCIENCES/DDHT STREAM OPTION COURSES ††† (1.5 Credits)

1.5 approved science options are required: 0.5 credit from CANC 440*, CHEM 213*, CHEM 222*, CRSS 456*, EPID 301*, LISC 414*, LISC 454*, PATH 430*; the remaining 1.0 credit can be chosen from the following: 200-, 300- and 400-level courses from Anatomy and Cell Biology, Biochemistry, Biology, Community Health and Epidemiology, Microbiology and Immunology, Pathology and Molecular Medicine, Pharmacology and Toxicology, and Physiology; LISC 422*, NSCI 322*, NSCI 323*, NSCI 324*, PSYC 205*, PSYC 215*, PSYC 220, PSYC 271*, PSYC 300, PSYC 326*, PSYC 331*, PSYC 370*, PSYC 371*, PSYC 375*, PSYC 380*, PSYC 390*, PSYC 395*, PSYC 421*, PSYC 425*, PSYC 470*, PSYC 471*, PSYC 475*, PSYC 501; 200-level courses in Chemistry, Mathematics and Statistics, and Physics.

††† PSYC 100 is a prerequisite for all higher-level psychology courses. Some psychology courses listed as approved science options have limited enrolments and may not be available to Life Sciences students.

ELECTIVES (4.0 credits)

The remaining credits to complete the degree may be chosen freely, provided the prerequisites have been met.

Program at a glance:

YEAR 1	YEAR 2	YEAR 3	YEAR 4
CHEM 112	CHEM 281* plus 282*	BCHM 310 General Biochem (1.0)	PHAR 450* PHAR 499 or equivalent research project course
BIOL 102* plus 103*	BIOL 205*	MICR 320* or alternative MICR course	
	MICR 221*	MBIO 218* Mol Biol (0.5)	
PHYS 107 or 106 or 104	PHGY 212	PHAR 340* (0.5)	PHAR 416* DDHT 459*
		(0.5)	DDHT 460*
MATH 121 or 122 (1.0)	ANAT 215* and 216*	(0.5)	(0.5)
	STAT 263* (0.5)	(0.5)	(0.5)
		(0.5)	(0.5)

CORE LISC COURSES (13 credits)
Additional DDHT CORE COURSES (1.5 credits)
DDHT OPTION COURSES (1.5 credits) and ELECTIVES (4.0 credits)

NEW COURSES

DDHT 459* – Drug Discovery

DDHT 460* – Drug Development and Human Toxicology

4. TEACHING:

Briefly explain how the intended mode of delivery (including, where applicable, distance or on-line delivery) and standards of instruction for this program are appropriate to meet the program's learning objectives.

The two new core courses to be offered as part of the Life Science/DDHT Research Stream, will have lectures, assigned group problems and problem-solving discussion sessions.

5. EVALUATION OF STUDENT PROGRESS:

Briefly explain the intended method of evaluation of student progress and how it is appropriate for this program.

Since entry into the program will be at the beginning of 4th year, evidence of progress will be the successful completion of degree requirements.

6. EQUITY:

This program's planning, development and implementation should be consistent with the equity goals of the University and must avoid direct, indirect and systemic discrimination.

Equity issues will be governed as per Life Sciences program

7. HUMAN RESOURCES:

Please demonstrate that the number, quality and academic expertise of the faculty in the area of the proposed program are sufficient to meet the demands of the program. Where appropriate, the availability of support staff, teaching and laboratory assistants should be indicated. (Additional details should be provided on the Resource Implications Checklist in **PART B** of this form).

Mounting the new stream will take advantage of expertise from a number of sources: existing members in the Faculties of Arts & Science (Dr. J. Carran from Chemistry), Applied Science (Dr. B. Amsden of Chemical Engineering), and Health Sciences (Dr. S. Smith of Biochemistry; Dr. L. Levesque of Community Health & Epidemiology, and Drs. M. Adams, T. Massey, D. Maurice, J. Reynolds, and L. Winn of Pharmacology & Toxicology); Parteq Innovations (Contact person: Ms. A. Vivian-Scott); and industry. Private sector participants will be from the pharmaceutical industry and a consulting company. Dr. L. Bedard (Merck Frosst Canada) and Dr. R. Walker (CanBioPharma) already have adjunct appointments at Queen's and contribute to existing courses; Dr. D. Clarke works for Wyeth Laboratories. Finally, the Department of Pharmacology & Toxicology has been fortunate to recruit a new faculty member with several years of experience in drug development in the pharmaceutical industry, and this individual will be joining Queen's in the spring of 2009.

The individuals listed above have the expertise necessary to put on the proposed program and associated courses. All those named have enthusiastically committed to participate.

The program will be administered by faculty and staff in the Department of Pharmacology and Toxicology

8. PHYSICAL AND INFORMATION RESOURCES:

Please provide a summary of available or required program-specific resources, such as: classroom requirements, laboratories, information technology services and facilities, and library facilities and information resources (including unique and special collections). (Additional details should be provided on the Resource Implications Checklist in **PART B** of this form).

A classroom that can hold 24 students with computer projection facilities. We also anticipate a periodic need for videoconference facilities in order to facilitate participation of our industrial contributors, when they are unable to attend in person.

9. FINANCIAL RESOURCES:

There should be evidence of sufficient resources to introduce and maintain the program for a reasonable period of time. This should include consideration of any additional funds from internal sources and from government or other external sources as well as possible financial impact of the programs on other programs, within and outside the unit. (Additional details should be provided on the Resource Implications Checklist in **PART B** of this form).

NA

10. SOCIETAL CONTEXT (STUDENT DEMAND, SOCIETAL NEED, DUPLICATION):

Please provide a summary of how this program is expected to meet student demand and societal need. Evidence of student demand could include: projected enrollment levels, application statistics, origin of student demand (domestic and international), and duration of projected demand. Evidence of review and comment by appropriate student organizations should be provided. Please explain how the program will fulfill a societal need in specifically identified fields (academic, public and/or private sector) and consider the probable availability of positions on graduation, the likelihood of attracting out of province or international students and the equity implications of the program. In the case of a professional program, discuss its congruence with the regulatory requirements of the profession. Please cite similar programs offered by other institutions and provide evidence of additional societal need and/or student demand as well as indicate innovative and distinguished aspects of the program.

At present, students in Life Sciences do not have access to courses in the field of drug discovery and development. The proposed stream, containing two new courses, will combine new learning opportunities in both drug development and safety (i.e. toxicology) principles and practice. Educating a significant number of Life Science students in the principles and concepts of therapeutic innovation, adverse events, toxic effects and potential for abuse could impact greatly on societal health and welfare by increasing the overall knowledge base in this broad field.

Records show that almost half of the graduates from the life science program have continued their education to qualify for professional careers in medicine, dentistry, law, chiropractic, speech pathology, etc. About a quarter of the graduates find employment in government or industry. The development of the Life Sciences/DDHT stream will fulfil a need for individuals with greater knowledge and skills in this important area of health care. This enriched stream will build on the challenging Life Science program of study, unique to Queen's, which has acquired a national reputation for academic excellence.

With respect to student demand for such a program, no statistics are available, since no program similar to the proposed DDHT stream exists in Canada, and we are not aware of anything like it internationally. Its development is supported enthusiastically by representatives of government agencies and industry.

11. LEARNING AND PROGRAM OUTCOMES:

While the aim of a university education is to produce educated individuals who possess good judgment and the capacity for critical thought, it is also important to consider specific indicators of learning and

program outcomes, such as a graduation rate, length of studies, job placement, external scholarships, awards of graduating students, results of professional certification or licensing examinations, etc. Please discuss the anticipated outcomes of this program.

In addition to the benefits of the existing Life Sciences program, the DDHT Stream will provide its graduates with advanced knowledge and skills which will make them more marketable in particular employment areas (e.g. Health Canada, biotechnology sector, and pharmaceutical companies, as well as being better prepared for professional schools). At the same time, they will be well suited for graduate studies in all of the life sciences.

12. OTHER ISSUES:

Please describe any additional special considerations with respect to this program.

PART B - RESOURCE IMPLICATIONS

1. SUMMARY OF RESOURCES REQUIRED

If you are unsure of the resource implications for any of the following, please consult with someone in the affected department or unit.

Please summarize the *additional* resources needed to implement the program:

- a) FACULTY NONE (number of half courses)

- b) STAFF NONE (number or fraction of FTEs)

- c) TEACHING ASSISTANTS NONE (number of student-courses)

d) PHYSICAL FACILITIES:

Please describe the space resource implications of the proposal in terms of the following (include both size (in terms of # of students) and frequency (number of hours per week required))

- 1. Classrooms 3 hrs per week, 25 students, periodic use of videoconferencing
- 2. Laboratories NA
- 3. Offices NA

For number d) 3 above, please reallocation or reconfiguration of space is required. If so, appropriate approval must be appended.

e) INFORMATION FACILITIES

Please indicate the ITS resource implications for the proposal in terms of requirement for

- 1. Hardware _____
- 2. Software / Internet _____
- 3. Audio-Visual classroom should have computer projection
- 4. Telecommunications Periodic use of videoconferencing

f) LIBRARY SERVICES

Please indicate which of following new library resources will be needed: None

- journals
- print monographs
- audio visual material
- historical documents
- electronic databases
- statistical / geospatial data

Indicate the likelihood of the program having an impact on Library staffing?

NONE

g) UNIVERSITY REGISTRAR

Please indicate the resource implications for the proposal in terms of requirement for:

1. Scholarships / Bursaries NA
2. Registration / SIS Programming NA
3. Timetable scheduling of core and option courses to minimize conflicts
4. Admission (Graduate / Undergraduate) NA
5. Convocation NA

h) OTHER UNIVERSITY SERVICES

Please indicate the resource implications for the proposal in terms of requirement for:

NO impact anticipated

1. Financial Services _____
2. Human Resources _____
3. Advancement _____
4. Student Services _____
5. Residences _____
6. Other _____

2. NEW EXPENDITURES

What **new** funds will be needed for each of the following? One-time \$ are monies that will only be required once for startup. Base \$ are funds that will continue to be needed year after year. Please attach some backup to show how the numbers were calculated.

	ONE TIME \$	BASE BUDGET \$
FACULTY		
STAFF		
TEACHING ASSISTANTS		
STUDENT ASSISTANCE (Grad)		
OTHER NON-SALARY		
TOTAL		

3. FUNDING SOURCES

Please show the source of the **additional and/or re-allocated funds** needed for the proposal. What amount will be re-allocated from within the department's budget, from within the faculty's budget, from within the University's budget and how much will come from tuition or other sources. One-time \$ are monies that will only be required once for startup. Base \$ are funds that will continue to be needed year after year. The total costs in section 2 (Cost Breakdown) must match the total costs in section 3 (funding sources)

	ONE TIME \$	BASE BUDGET \$
DEPARTMENT BUDGET		
FACULTY BUDGET		
UNIVERSITY BUDGET		
TUITION REVENUE		
OTHER SOURCES		
TOTAL		

If other sources are used, please list the sources and indicate if the funds have been applied for and if they have been secured.

N/A

4. IMPACT ON ENROLMENT

- a) How many students are expected in the program? 16
- b) How many new students will the program attract to Queen's University? The students in this program will be part of the enrollment of the existing Life Sciences Program.
(i.e. students in the program that are not transfers from existing programs currently being offered at Queen's)
- c) How many students must be accommodated by other departments / units? None
(Please indicate which departments / units will be affected and how.)

5. NET IMPACT OF THE PROPOSAL

Please summarize any other resource or funding implications of the proposal.

Enhanced educational opportunities for Life Sciences students. The addition of two senior courses will greatly help students to complete their degree requirements (i.e. 48 positions in the 2 courses). Furthermore, the two new courses are small group formats which will enhance the quality of the learning environment.

6. SIGN-OFF

Following Faculty Board approval, signatures from the following individuals listed below must be obtained to verify that they have reviewed this proposal. Supplementary comments may be appended and so indicated by checking the box beside the appropriate signature.

Title	Comments Appended	Signature
Department Head	<input type="checkbox"/>	<i>Michael Adams</i> Acting Head
Dean or Associate Dean	<input type="checkbox"/>	<i>[Signature]</i>
Dean of Student Affairs	<input type="checkbox"/>	<i>[Signature]</i>
University Librarian	<input checked="" type="checkbox"/>	<i>[Signature]</i>
Director, Information Technology Services	<input type="checkbox"/>	<i>[Signature]</i>
University Registrar	<input checked="" type="checkbox"/>	<i>[Signature]</i>
Associate VP (Operations & Facilities)	<input type="checkbox"/>	<i>[Signature]</i>
<i>NOTE</i> Vice-Principal (Operations & Finance)	<input type="checkbox"/>	<i>[Signature]</i>
Vice-Principal (Academic)	<input type="checkbox"/>	<i>[Signature]</i>

Program Approval Submission – Cancer Research Stream

Part B: Library Comments on Resource Implications and Physical Facilities

The Bracken Health Sciences Library (BHSL), housed on two levels in Botterell Hall at Queen's University, supports the education and research endeavors of the faculty, undergraduate and graduate students in the Faculty of Health Sciences, including the Schools of Medicine, Nursing and Rehabilitation Therapy, and the Life Sciences programs. Eight professional librarians (who are members of the Queen's University Faculty Association) and eleven library technicians, as well as part-time casual employees, staff the BHSL.

Queen's University has always had a strong commitment to the excellence of library collections. There is a constant review of the collection and of periodicals; and careful attention is paid to the needs of students and faculty when orders are placed. It is the library's avowed policy to continue the review of the acquisition program to maintain a sound working library for teaching, research and clinical practice.

Due to the interdisciplinary nature of the fields of health and life sciences and the research associated with them, it is virtually impossible as well as unnecessary to divide the BHSL acquisition funds by department. The disciplines served by the BHSL require that information to be current and as a result 90% of the acquisitions budget is allocated to journals and electronic resources.

In collection practices there is a growing emphasis on electronic resources, both e-books (over 1000 titles) and e-journals (6000 in the health and life sciences), as they provide currency of content, and point-of need 24/7 access from any computer with Internet access. Remote access to electronic resources is available through the Queen's Proxy, allowing students, faculty members, and preceptors to access a rich array of resources from home, office or clinic.

The Library provides access to the premier health and life sciences indexing and abstracting databases that are available on a common OVID interface. Bracken Health Sciences librarians have developed curriculum-integrated information literacy programmes to ensure that students and faculty learn how to use these resources efficiently and effectively. Programmes for upper-level students also include instruction on the use of bibliographic management software (e.g., Reference Manager, RefWorks).

Bracken Health Sciences Library has also established a Health Informatics Librarian position. This librarian works closely with faculty and IT Services at Queen's to investigate, develop and foster the integration of library and information technology into the curriculum and research streams at both the individual faculty member, and larger departmental levels.

BHSL also maintains a programme of faculty development courses. These are designed to introduce faculty to resources, services and support that the library provides. These

also allow us to explore in a collegial environment, the option and opportunities for integrating these resources and services into teaching, learning and research.

The total area of 31,500 square feet includes seating capacity for 400-500 library users. In 2005, the BHSL's Main Level was completely renovated to create a state-of-the-art interactive learning facility. Circulating laptops and wireless Internet allows students to choose their preferred seating areas, many of which are designed to encourage collaborative activities. Six group study rooms each hold twelve persons, either at tables or at tablet armchairs on wheels. Students may reserve the group study rooms using a self-serve online room booking system.

Students have access to 86 workstations at BHSL. These include 42 fixed personal computers and laptops, as well as 14 circulating laptops, with Windows XP and full Microsoft Office production software. An additional 12 laptops are available for group learning purposes. Twenty-five thin client express workstations offer web browsing and e-mail as well as file editing and printing. A state-of-the art electronic classroom, the e-lab, which can be booked by faculty, offers a comfortable learning environment with wall-hung plasma screens, a document camera, SmartBoard technology, a sound system and movable furniture. Other amenities at BHSL include printers, copiers, and a self-serve scanning station.

The BHSL Main Level also offers informal study areas, such as computer pods, café style benches and tables, and groupings of leather chairs. On the Lower Level, where the emphasis is on quiet independent study; there is a sunny silent reading lounge and dozens of study carrels.

Jo-Anne Brady, 12:27 PM 03/03/2009, New LISC Program Streams: CANC and DDHT

Date: Tue, 03 Mar 2009 12:27:40 -0500
From: Jo-Anne Brady <jo-anne.brady@queensu.ca>
Subject: New LISC Program Streams: CANC and DDHT
To: 'Sue Blake' <blakes@queensu.ca>
Thread-index: AcmcJVoSDADQJeDOSCeNij109pjJKQ==
Original-recipient: rfc822;blakes@queensu.ca

Sue

I have reviewed the program submissions and offer the following comments:

> we do not anticipate rooming problems for either stream; a process will have to be developed for the DDHT stream for ad hoc booking of a videoconferencing facility as required

> we anticipate a scheduling challenge for MBIO 218* (a) in general if plans proceed to collapse two sections into a single section and (b) in particular for DDHT where the program outline includes the course in the 3rd year, rather than the 2nd year to be consistent with all other LISC programs

> there is some impact on this office with respect to registration – the streams will be set up consistently with the previously established streams (NSCI and CRSS) and students will register in these streams as their 2nd concentration which should permit access to all on-line registration and graduation services; testing will be conducted to determine the impact on current on-line processes (e.g., QCARD, A2G)

I have signed the program submission forms and will ensure they are sent to your attention today along with a copy of this e-mail.

Jo-Anne

Jo-Anne Brady
University Registrar
Queen's University
Kingston, Ontario
613-533-6000 X74054
613-533-2045 (secretary Carla Place)