AGENDA ITEM NO: 9.1

UNIVERSITY COUNCIL

PLANNING AND PRIORITIES COMMITTEE

REQUEST FOR DECISION

PRESENTED BY: John Rigby, Chair, Planning and Priorities Committee

DATE OF MEETING: October 18, 2007

SUBJECT: Disestablishment of the Virtual College of Biotechnology

DECISION REQUESTED:

It is recommended:
That Council approve the disestablishment of the Virtual College of Biotechnology, effective June 30, 2008, or as near that date as is feasible.

CONTEXT AND BACKGROUND:

The Virtual College of Biotechnology (VcB) was established by Council on January 27, 2000, as an initiative of the Priority Determination process, which preceded the first Integrated Plan.

IMPLICATIONS:

Ownership of the programs associated with the VcB resides with the various Colleges which offer the degrees. The request for disestablishment entails the commitment that no student will be stranded without the opportunity to complete their degree. The funding for the tenure-track faculty positions created in support of the College and the non-salary operating budget will be reallocated with the approval of PCIP. Negotiations regarding the area for placement of the Jarislowsky Chair are ongoing.

CONSULTATION:

Consultation regarding the future of the college including its potential disestablishment has occurred over the past two years, including an open meeting in June, 2007 with VcB faculty *(see pg. 8 of the proposal for the timeline of consultation).*

SUMMARY:

In summary, the Planning and Priorities Committee is convinced of the University's commitment to a continued emphasis on biotechnology as an area for growth and investment. The disestablishment of the VcB will remove the organizational structure associated with the delivery of the undergraduate programs but is not a disinvestment on

the part of the University in biotechnology programming or research. Rather, the disestablishment of the VcB provides a shift in focus towards greater responsibility at the college level and the impetus for program renewal. It is important to note that the VcB affects only a portion of the University's program offerings in this area.

FURTHER ACTION REQUIRED:

Communication of the disestablishment of the VcB will stress the University's continued emphasis on biotechnology research and programs and the opportunity for all students enrolled in degree programs associated with the VcB to complete their degree.

ATTACHMENTS:

1. Memorandum from E. Barber, dated September 26, 2007.
2. Proposal to Discontinue the Virtual College of Biotechnology, dated September 26, 2007

UNIVERSITY OF SASKATCHEWAN

Office of the Provost and Vice-President Academic

MEMORANDUM

TO: John Rigby, Chair
Planning and Priorities Committee of Council

FROM: Ernie Barber
Acting Provost and Vice-President Academic

SUBJECT: Virtual College of Biotechnology

DATE: September 26, 2007

I am writing to ask the Planning and Priorities Committee to consider the enclosed report on the future of the Virtual College of Biotechnology (VCB) and to support its recommendation that the VCB be dissolved effective June 30, 2008. Let me state categorically that the University has attempted to make the concept of the VCB work. While the VCB has been successful in many ways, circumstances have changed that make this structure no longer the best alternative for supporting interdisciplinary work in biotechnology.

As we all know, the VCB was an early attempt to support cross-college/multi-unit collaborations to deliver interdisciplinary programs. With the support of the VCB:

- interdisciplinary undergraduate programs were implemented in the Colleges of Agriculture and Bioresources, Arts and Science, Engineering, and Medicine and the Edwards School of Business;
- the MBA program and its heavily subscribed bioTechnology Management specialization were restructured; and
- a graduate-level interdisciplinary concentration in Biotechnology and Society was developed.

The programs have been very successful, attracting approximately 850 students in the past five years. Four faculty members were hired in Biotechnology to support the programs, both teaching and research. The University has been profoundly successful in securing new resources, including funding from Genome Canada and the Canada Foundation for Innovation. With these successes, the University has moved ahead far enough in Biotechnology that we have outgrown the VCB structure; these changing circumstances could not have been envisioned in 2000 when the Virtual College was established. Our intention is to continue with Biotechnology; students will continue to find Biotechnology programming at the University of Saskatchewan a rich and rewarding experience, and we will continue to engage with the Biotechnology community outside of the University.

The first *Integrated Plan* called for the University to consider: "collapsing the existing undergraduate degree programs that currently exist in various science departments into a single Bachelor of Science in Biotechnology. … If, on the other hand, departments wish to retain the existing structure, the VCB should shift its focus to developing graduate programming and

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resources commensurate with that role. It is crucial that the University establish a graduate presence in biotechnology. The most likely area for this development is in the science and technology field, where issues of commercialization, trade, regulation and ethics combine to create perplexing problems of public policy. The VCB leadership is urged to explore the possibility of developing a professional Masters program in this area, perhaps with other, linked programs, and perhaps under the umbrella of the proposed School of Public Policy" (p.11).

Over the past four years, the VCB has developed a graduate-level interdisciplinary concentration in Biotechnology and Society, a program that could continue on its own or within the new School of Public Policy.

Over the past two and a half years, the Provost and Vice-President Academic and the VCB Director, Designated Dean, and Executive Committee have met with faculty to discuss future directions for the virtual college. The consultation process has included one-on-one meetings with instructors, faculty, program advisors, committee members, and administrators associated with the VCB and its programs. The sentiment repeatedly expressed was that the programs and activities around biotechnology have outgrown the VCB structure; moreover, these programs and initiatives have become embedded in a multitude of units.

Additional details around the accomplishments and challenges of the VCB over the past six years are outlined in the attached report from the VCB Executive Committee, as are a group of recommendations for redirecting the Biotechnology programming. While I believe the report does a good job of articulating the reasons for this request, from my perspective (as the Designated Dean responsible for this Priority Determination initiative and now as Acting Provost), it is important to point to several features that no longer make this structure a viable option:

- there is a lack of understanding about the role of the virtual college;
- there is too little vested authority for the VCB to "create a name for itself" or directly sponsor academic programs; and
- difficulties have been experienced offering student services like advising, which are considered the responsibility of the students' home college.

I therefore believe that it is time for the University to move towards a new model for delivering its biotechnology programs and for the University to dissolve the current structure.

As we transition to the next stage of biotechnology at the University of Saskatchewan, it is important to recognize the efforts and contributions of the faculty, staff, and students. Credit should be given to the efforts of many individuals who were committed to the vision for the VCB, including the faculty who invested in developing and modifying courses, the managers, directors and Deans.

Ernie Barber

EMB/ks/alm
c: VCB Executive
VCB Faculty

Virtual College of Biotechnology

A PROPOSAL TO DISCONTINUE THE VIRTUAL COLLEGE OF BIOTECHNOLOGY

Submitted to the Provost's Committee on Integrated Planning

September 26, 2007

Prepared by:
Kyla Shea, College Manager

On behalf of the VcB Executive Committee

Dr. William Albritton, Dean, College of Medicine
Dr. Ernie Barber, Designated Dean (2006-2007)
Dr. Jo-Anne Dillon, Dean, College of Arts and Science
Dr. Dennis Gorecki, Dean, College of Pharmacy and Nutrition
Dr. Grant Isaac, Dean, College of Commerce
Dr. Janusz Kozinski, Dean, College of Engineering
Dr. Charles Rhodes, Dean, Western College of Veterinary Medicine
Dr. Graham Scoles, Acting Dean, College of Agriculture and Bioresources
Dr. Tom Wishart, Dean, College of Graduate Studies and Research

Summary of Recommendations:

For University Council:

- That the VcB be discontinued, effective June 30, 2008.
- That the undergraduate programs in biotechnology be developed and administered using the "platform" model. A Biotechnology Coordinating Committee would serve as the coordinating authority for biotechnology undergraduate programs at the Major, Honors, and Minor level of specialization.
- That the College of Graduate Studies and Research and the School of Public Policy collaborate with the appropriate colleges to further develop the graduate Interdisciplinary Concentration Area in Biotechnology and Society and the MBA specialization in bioTechnology Management.

For PCIP:

- That there is a continued investment in biotechnology as a priority area for the University of Saskatchewan.
- That the funding now allocated to the VcB for faculty positions and operations be reallocated to priority initiatives through the Academic Priorities Fund.
    - That the two social science faculty positions be transferred to the School of Public Policy for work in innovation and biotechnology management, and
    - That the Jarislowsky Chair in Biotechnology, including the endowment that supports this Chair, be transferred to the School of Public Policy.

Accomplishments of the Virtual College of Biotechnology:

In 1999, the University Council approved a Biotechnology initiative as a priority area. This initiative was intended to "strengthen the role of the University of Saskatchewan as an innovator, coordinator and a leader in the intellectual and economic development of the science of applying technology to living things." The multi-pronged approach included establishing a number of Canada Research Chairs related to Biotechnology, renovating and equipping a new molecular biology teaching facility and establishing the Virtual College of Biotechnology (VcB). The establishment of the VcB in 2000 followed the approval a few months earlier by University Council of the Virtual College as an organizational structure to facilitate the coordination, integration and delivery of new interdisciplinary academic programs.

Since 2000, over 80 faculty members have had a formal affiliation with the VcB. Approximately one-quarter of these faculty members have identified closely with the VcB in teaching, research and outreach in the area of biotechnology. Four new faculty positions were created through the Priority Determination process and assigned to the VcB. The strength and promise of the research performed in biotechnology was recognized and supported by the creation of the Jarislowsky Chair in Biotechnology.

The VcB has delivered several new programming options for graduate and undergraduate students. There are ten degree options for students enrolled in Arts and Science, Business, Engineering and Agriculture and Bioresources and approximately 850 students have enrolled in Biotechnology programs over the past five years. The VcB was responsible for the development of twelve specialty courses, eleven of which have been incorporated into various departmental teaching loads. Most importantly, the VcB increased awareness and interaction between life science and social science students and faculty. The VcB supported the restructuring of the MBA program and its heavily subscribed bioTechnology Management specialization. An Interdisciplinary Concentration in Biotechnology and Society was developed for graduate students and currently has eight students and three recent graduates.

Despite the many challenges encountered by the VCB, it has delivered at least in part on its purpose of coordinating, integrating and delivering interdisciplinary undergraduate and graduate programming. Students eagerly sought and then shared an awareness and appreciation of the "big picture" of biotechnology. Credit should be given to the efforts of many individuals who were committed to the vision for the VcB, including the faculty who invested in developing and modifying courses, the managers, directors, and deans.

Shortcoming and Challenges:

Amidst the successes, the VcB has also had its struggles. While the VcB has met some of the objectives set out in the proposal that was approved by University Council, by 2005 it had become apparent that there were several persistent problems and shortcomings that were hampering the full realization of the initial goals (Phillips, 2005).

Throughout the establishment and operation of the VcB, there has been a lack of understanding by the university and industry communities as to the role and focus of a Virtual College. In addition to this, the lack of authority vested in the Virtual College has limited the College's ability to "create a name for itself". The inability of the VcB to sponsor academic programs directly to the Academic Programs Committee of Council has left the VcB relatively powerless to effect change in biotechnology programs.

The VcB has had many problems delivering student services, such as program advising, as students are told that "their own colleges" must provide these services. This has created a disconnect between the undergraduate students and the VcB and may have resulted in a decreased awareness, understanding and uptake of the VcB degree programs. Secondary to this, the limited authority granted to the VcB has hindered the College's ability to adjust undergraduate and graduate programming. As biotechnology related industries evolve quickly, industry and students have expected that the VcB classes and programs would change to reflect the cutting-edge research and technologies.

Four faculty positions were allocated to the VcB at its initiation and all four persons appointed to these positions have been first-rate scholars. Two of these new appointments (Commerce, Arts and Science) were identified explicitly to work with the VcB and its evolving programs; as a consequence, the scholarly work of the two faculty members has

been visibly devoted in its entirety to the VcB. Conversely, the two new faculty positions in the College of Medicine were fully integrated into their home departments and the faculty of those departments committed collectively to increase the department's role in biotechnology education and scholarship. The individuals appointed to these new faculty positions were not readily and fully identifiable as faculty within the VcB. This arrangement has made it more difficult for the Director of the VcB to assign duties and to hold individuals and departments accountable for commitments to the VcB.

The University of Saskatchewan invested in Biotechnology through the VcB and also through creating a molecular biology teaching facility and identifying biotechnology as one of the over-arching themes in its research plan for implementation of the Canada Research Chairs Program. Despite the very significant combined investment (several thousand dollars in laboratory equipment, nine faculty positions and one Visiting Chair), there is little evidence of synergy or coordination between these three major initiatives. In 2006-2007, three of the five Canada Research Chairs appointed within the Biotechnology theme delivered a series of "Canada Research Chair" seminars as a component of the VcB seminar series. The VcB staff has sporadically used the molecular biology facility for demonstrations for high school students as part of their outreach program.

When University Council approved the formation of virtual colleges at the University of Saskatchewan, a detailed description was given of the processes to be used for governance and management of a virtual college. Two of the key elements of the recommended governance were the appointment of a designated dean and the creation of an Executive Committee. The designated dean was a dean, or representative thereof, who took on the additional responsibility of the VcB along with their regular duties. The Executive Committee was chaired by the designated dean of the VcB and comprised of the deans of all participating colleges and one member of the Planning Committee of University Council. This Executive Committee has not been effectively used as deans delegated their positions on this important committee to junior colleagues.

There is little evidence that the life scientists who are using the tools of biotechnology require a forum such as the VcB to encourage them to engage in interdisciplinary research at the broad level of "biotechnology". The tools of biotechnology are widely accepted and used within many life-science disciplines and are applied to a broadening array of applications and societal interests. Therefore, from a research and scholarly work perspective, the VcB structure has had little to offer these scientists. One suggestion was to create an Institute of Biotechnological Sciences to serve as an umbrella for the biotechnology science cluster at the U of S, including AAFC, PBI, and Innovation Place companies but this suggestion appears not to have been acted upon.

Based the information presented above, the Executive Committee is recommending that the Virtual College of Biotechnology be dissolved by June 30, 2008.

Reallocation of VcB Assets:

When in 2005 the then Director of the VcB, Peter Phillips, summarized some of the difficulties facing the College, he also described four options for the future of the VcB. The most promising alternative involved transferring the most vital component of the VcB's work, along with all or most of its assets, to a School of Public Policy. The idea of a School of Public Policy was in the early stages of development at that time which made it difficult to bring conclusion to the discussions concerning the future of the VcB. The School of Public Policy has now been established and the implications of rolling aspects of the VcB into the School can now be assessed with greater certainty.

The School of Public Policy is conceived as a unifying structure to facilitate interdisciplinary research and graduate programs in public policy (March 21, 2007). The overall theme of the proposed School is innovation policy, including science, technology and society. A vast majority of the Canadian public have now accepted the concepts of biotechnology. Nevertheless, there appears still to be a need for mechanisms to engage academics from several disciplines to consider the social, legal, ethical and business aspects of biotechnology, especially from a public policy perspective. The School of Public Policy intends to offer three graduate programs, a Masters degree in Public Policy, a PhD in Public Policy, and a Masters of International Trade.

Faculty Resources

The financial resources currently allocated to the VcB include funding for four faculty positions and a small non-salary operating budget. It is recommended that, upon dissolution of the VcB, these resources be reallocated to current priorities through the Academic Priorities Fund. Notwithstanding this recommendation, it is further recommended that the two social science faculty positions now funded through the VcB be reallocated to the School of Public Policy. Both faculty positions are currently vacant with the moves of Professor Michael Mehta to the University of Alberta and Professor Grant Isaac to the role of dean of the N. Murray Edwards School of Business.

The other two faculty positions funded through the VcB are life scientists in the Departments of Anatomy and Cell Biology (Troy Harkness) and Biochemistry (Hong Wang). In exchange for funding these two positions, the College of Medicine has been able to provide for the teaching of two science courses in the biotechnology program. Both Professor Harkness and Professor Wang are tenured faculty and their own personal positions will not be affected by the closure of the VcB. However, it is recommended that the resources provided to the College of Medicine through the Priority Determination Process and used until now to fund these two faculty positions be recouped centrally into the Academic Priorities Fund for reinvestment in priority initiatives of the University. The College of Medicine should be asked to develop a plan for this reallocation of resources to be completed by the end of the next planning cycle (i.e., 2012).

Endowed Chair

Finally, it is recommended that the Jarislowsky Trust be transferred to the School of Public Policy and that the annual income be used to support a Senior Professorship in

Biotechnology Management and Policy. The Jarislowsky Chair in Biotechnology was created through the generosity of Mr. Stephen Jarislowsky who provided an endowment of $600,000 matched by the Government of Saskatchewan ($500,000) and the University of Saskatchewan ($100,000). The Jarislowsky Trust provides approximately $40,000 per year in research funding to a faculty member in the area of biotechnology.

The Executive Committee would like to emphasize that disestablishment of the Virtual College of Biotechnology will not affect the molecular biology facility or the Canada Research Chairs with a biotechnology theme.

Continuing the Academic Programs Developed by the VcB:

The VcB has delivered several new programming options for graduate and undergraduate students including degree options for undergraduate students enrolled in Arts and Science, Business, Engineering and Agriculture and Bioresources and an interdisciplinary concentration for graduate students.

Graduate Program

The VcB leads an existing graduate interdisciplinary concentration area in Biotechnology and Society with eleven current and recently graduated students. The School of Public Policy will be in an excellent position to further develop and nurture this program.

The last allocation of graduate student scholarships has the VcB occurred in May 2007. The College of Graduate Studies and Research assumed responsibility for monitoring these awards during this academic year.

Undergraduate Program

Since 2000, undergraduate students interested in biotechnology have been able to choose from ten majors, minors or options in degree programs of the Colleges of Arts and Science, Business, Engineering and Agriculture and Bioresources. Twelve specialty courses have been developed to support these programs. The biotechnology programs have remained essentially unchanged since first being approved with the implementation of the VcB. Although the initial demand for these biotechnology programs was promising, the enrollment has declined over time in most of the programs. There have been a variety of concerns expressed about the programs and there is not currently a solid commitment from the various departments to continue with all of the programs under the current management structure.

A proposal has been developed for a B.Sc. Biotechnology (Bonham-Smith et al., March 2007) to replace the four health science majors currently offered within the College of Arts and Science. This program is based on the common first two years in biomedical sciences developed by the College of Medicine. While this appears to be a good solution for the biomedical science disciplines, there is limited potential to build from this biomedical sciences platform into other applied science baccalaureate programs and, therefore, other solutions may be required for biotechnology programs in other colleges (e.g., Engineering, Agriculture and Bioresources). A modification of the platform to be

more specific to “biotechnology” and/or to be more inclusive of the needs of disciplines outside the College of Medicine may resolve this shortcoming. In a similar manner, a platform model could be developed for social science programs in which biotechnology majors are built on a common set of core courses and competencies and are attached to degree programs in more than one college, perhaps the B.Comm., the B.A., and the B.Sc. (Agribusiness). It is recommended that the College of Arts and Science assume responsibility for leading consultation and the development of a suitable biotechnology platform(s) and that specific proposals be brought to University Council before July 2008.

Supporting Documentation:

- Summary of Proposal to University Council for Formation and Operation of Virtual Colleges (October 21, 1999)
- Proposal for a Virtual College of Biotechnology (January, 2000)
- Options for the Future of the vCollege of Biotechnology, Peter Phillips (June 10, 2005)

Timeline of the Virtual College of Biotechnology

February 1999	Report from Biotechnology Task Force to Planning Committee (including VcB and academic programs)
October 1999	Approval of a policy governing the establishment of virtual colleges at the University of Saskatchewan by University Council
January 2000	Approval of the VcB by University Council
February 2000	First Director appointed
May 2000	Virtual College of Biotechnology begins to operate
September 2000	Undergraduate academic programming begins
May 2001	First graduates from Biotechnology undergraduate program
July 2001-July 2002	Appointment of four faculty members to biotechnology with resources provided by the Priority Determination Process
September 2002	First Jarislowsky Chair in Biotechnology appointed
May 2004	First University-level Integrated Plan approved with implications for biotechnology programs
June 2004	Graduate programming begins
June 2005	Initial discussion paper on future options for the VcB drafted
2005/2006	Meetings initiated by Provost with faculty to discuss the preferred future for the VcB
March 2007	'Proposal for Dissolving the VcB' submitted to the VcB Executive Committee
April 12, 2007	VcB Executive Committee adopts 'Proposal to Dissolve the VcB'
June 14, 2007	Open meeting with VcB faculty and other interested parties
October, 2007	Submission to University Council to dissolve the VcB