

INSTRUCTION, RESEARCH, AND STUDENT AFFAIRS AGENDA
JANUARY 20-21, 2002

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SUBJECT

FULL PROPOSALS: UNIVERSITY OF IDAHO

BACKGROUND AND DISCUSSION

In accordance with Board policy III.G. 5.a.4, all doctoral programs require, as part of the Full Proposal, an external peer-review panel consisting of at least two members selected and agreed upon by the Board's Chief Academic Officer and the requesting institution's Chief Academic Officer. The review consists of a paper and on-site review followed by the issuance of a report and recommendations by the peer-review panel.

The paper reviews have been conducted and the on-site reviews occurred on November 14, 2002 for Neuroscience, November 15, 2002 for Bioinformatics, and November 25, 2002 for Environmental Science with the following reviewers for each:

James Bull	The University of Texas—Austin	Bioinformatics
Michael Gribskov	University of California—San Diego	Bioinformatics
Ira Kalet	University of Washington—Seattle	Bioinformatics
Bradley Smith	Western Washington University	Environmental Science
William Budd	Washington State University	Environmental Science
Gwen Jacobs	Montana State University	Neuroscience
Bryan Slinker	Washington State University	Neuroscience

Copies of their comments and recommendations will be shared with the Board at the meeting.

IMPACT

The institutions requesting these new programs, if Board approved, will implement these requests and will be subject to future monitoring for program compliance.

FISCAL IMPACT

See Attached

RECOMMENDATION

Bio-informatics, Environmental Science and Neuroscience are three broad disciplines with multiple potential emphasis areas. The proposals submitted by the University of Idaho address one specific emphasis area in each discipline. As a result, approval of these proposals does not preclude the development of proposal from other State Institutions to address different emphasis areas within these same disciplines.

Both CAAP and Board staff recommend approval of these Full Proposals as presented.

MOTION

A motion to approve the University of Idaho's new Ph.D. program in Environmental Science, and Ph.D. and M.S. programs in Bioinformatics and Neuroscience.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

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Full Proposal - Summaries

The University of Idaho has submitted Full Proposals for the approval of Ph.D. programs in Bioinformatics, Environmental Science, and Neuroscience. CAAP and Board staff has reviewed these Full Proposals and recommend approval.

a. Ph.D., Bioinformatics—UI

The University of Idaho is requesting approval of a new interdisciplinary degree program to offer M.S. and Ph.D. degrees in Bioinformatics and Computational Biology (BCB). The BCB degree will bring highly qualified graduate students to campus and will enhance UI's ability to recruit and retain high quality faculty members. The emphasis of the BCB degree will be on active, interdisciplinary collaborations.

The BCB degree will be delivered on-campus in Moscow at the University of Idaho and will be administered by the College of Graduate Studies. The coursework will be primarily from current offerings with few supplements. The focus of the degree will be on learning to develop and use computational and mathematical tools to analyze biological data. This request does not duplicate any programs in Idaho or in the Pacific Northwest. Future collaborations among Idaho institutions are possible and the UI does not object to other Idaho universities offering their own degrees in BCB subject to meeting SBOE requirements and approval procedures.

The BCB degree has high employment potential. An online search of help wanted ads in Nature for the week of 13 February 2002 yielded 70 ads for specialists with this educational background. The economic impact on the state is also high, particularly in the following industries: agriculture and livestock, natural resources, wildlife management, bioremediation, and pharmaceuticals. This program will also increase UI's ability to successfully compete for federal research dollars, which have dramatically increased in recent years.

Faculty and staff from existing colleges and institutes will deliver the majority of the program. An additional .25 FTE for a program director, and an additional .25 FTE for staff support is required. Space needs include faculty, staff and student offices and labs, which will be negotiated with existing departments.

Estimated Fiscal Impact

	FY03	FY04	FY05
Personnel Costs	\$50,874	\$62,121	\$73,459
Operating Costs	19,000	20,500	20,500
Grand Total	<u>69,874</u>	<u>82,621</u>	<u>83,959</u>
Recurring Funds	\$36,760	\$38,598	\$40,528
Non-Recurring	14,114	23,523	32,932
Total Revenues	<u>50,874</u>	<u>62,121</u>	<u>73,460</u>

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b. Ph.D., Environmental Science—UI

The University of Idaho is requesting approval of a new Ph.D. degree program in Environmental Science. The proposed Ph.D. degree offers students the opportunity to combine studies in several disciplines and professional fields in order to gain an understanding of the complex nature of environmental problems. In addition to understanding relationships between traditional disciplines, the program will foster an integrated, interdisciplinary and coherent approach to environmental problem solving. To meet these objectives, the curriculum includes courses in many disciplines as well as in specific areas of environmental science. Courses in biology, chemistry, math, forestry, geology, political science, economics and soils are combined into six emphasis areas for the degree. These six emphasis areas will be offered in Moscow upon proposal approval, two in Idaho Falls, and none in Boise.

No Ph.D. in environmental science is offered in Idaho. The University of Idaho currently offers both B.S. and M.S. degrees statewide in Environmental Science, using live instruction, compressed video and the Internet. ISU also offers two doctoral degrees (Biology and Engineering and Applied Science) with emphasis areas related to environmental science (ecology and subsurface science). Cooperation with WSU, ISU, and BSU will ensure that courses do not overlap in regional offerings. Future collaborations with WSU, ISU, and BSU will ensure that the UI Ph.D. program in Environmental Science will complement their course offerings and areas of expertise.

The UI Environmental Science program has been very successful since its inception in 1993. Since the first graduates in 1996, 43 M.S. degrees and 185 B.S. degrees have been awarded. In Moscow, the M.S. program has 43 students; the B.S. program has 140 students. In Idaho Falls (where the program has been offered since 1996), 21 students are seeking the M.S. and 7 are seeking the B.S. degree. Of those graduated, 94% are employed or chose to continue their education.

Demand for scientists trained in environmental science and for science Ph.D.s in general remains strong. According to *Career World* in April/May of 1999, "National and international concern about threats to our environment and the future of the planet will continue to create demand for people to work in this field." The October 2001 web site, www.ejobs.org, lists 214 companies, 85 non-profits, 17 law firms, and 80 government agencies advertising for one or more positions (sometimes as many as 20 individual positions) in environmentally-related fields in Idaho Washington, and Oregon. Currently, the University of Idaho receives many more external requests for student interns and graduates from environmental science than it can meet.

Existing faculty and curricular resources will be re-allocated to support the new degree program. Faculty from eight colleges within UI will participate in the Environmental Science Program. Only .2 FTE is requested to implement the program initially. An additional full-time faculty position may be needed as the program matures. No new equipment will be required.

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Estimated Fiscal Impact

	FY_03__	FY__04__	FY__05__
A. Source of funds			
1. Appropriated funds – reallocation – MCO <i>(existing, in-kind)</i>	\$133,353	\$135,621	\$147,364
(new)	\$ 36,120	\$ 37,468	\$ 38,854
 GRAND TOTAL REVENUES:			
<i>(existing, in-kind)</i>	\$133,353	\$135,621	\$147,364
(new)	\$ 36,120	\$ 37,468	\$ 38,854
	FY_03__	FY__04__	FY__05__
B. Nature of Funds			
1. Recurring*			
<i>(existing, in-kind)</i>	\$133,353	\$135,621	\$147,364
(new)	\$ 36,120	\$ 37,468	\$ 38,854
 GRAND TOTAL REVENUES:			
<i>(existing, in-kind)</i>	\$133,353	\$135,621	\$147,364
(new)	\$ 36,120	\$ 37,468	\$ 38,854

c. Ph.D., Neuroscience—UI

The University of Idaho is requesting approval of the implementation of a Neuroscience program to offer a M.S. degree and Ph.D. degree. The multidisciplinary curriculum has three components: neurobiology, cognitive neuroscience, and computational neuroscience. The M.S. and Ph.D. degrees will be offered in Moscow and will be administered by the College of Graduate Studies.

There is no public or private institution in the State of Idaho that provide an interdisciplinary Neuroscience graduate program where graduate students are trained for careers in research, teaching, and technology. However, UI does not object to other Idaho institutions offering their own degrees in Neuroscience in future. UI's future plans include collaboration with the WSU Neuroscience graduate program and possible expansion to or inclusion of appropriate ISU or BSU faculty in the UI program. The UI will work in concert with ISU and BSU.

A recent report by the National Research Council (NRC), "Trends in the Early Careers of Life Scientists" (1998) identified the field of Neuroscience as the "top newly emerging field that held great promise for the future, and that offers "unlimited challenges and opportunities in basic and applied research." The report acknowledges that advances in technology and a multidisciplinary approach have greatly enhanced Neuroscience research currently and its prospects for the future.

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The proposed University of Idaho (UI) program will bridge computational neuroscience, cognitive neuroscience and neurobiology, and will therefore offer new graduates added career advantages, as there are substantial and growing opportunities in interdisciplinary neuroscience. Several funding organizations, including the Alfred P. Sloan Foundation, have recently recognized a national need for investigators with training that bridges the theoretical worlds of mathematics and computer science with the experimental worlds of neurobiology and cognitive sciences. A graduate program with this training environment can place the UI at the leading edge of this national trend.

One major goal of neuroscience research is to understand how the nervous system forms and functions so that treatments and cures can be developed for neurological disorders such as Alzheimer's disease, depression, drug addiction and spinal cord injury. Neuroscience research also strives to understand cognitive processes and apply this understanding to the industrial and policy arenas. Toward these ends, students should be trained in the area of neuroscience to prepare them for careers at academic institutions, industry, and in scientific communications. Such training must be multidisciplinary as neuroscience integrates across many traditional disciplines such as chemistry, biology, psychology, engineering and computer sciences, physics, and philosophy. The UI has considerable strengths within and among these disciplines, and great potential for further growth and collaboration.

Faculty and staff in existing colleges will be utilized for the administration and instruction of the M.S. and Ph.D. program, although an additional 0.25 FTE will be needed to support the activities of the Program Director, and an additional 0.5 FTE for support staff. Three graduate research assistantships will be awarded on a competitive basis each year. Most personnel costs can be met with funds available through the Biomedical Research Infrastructure Network (BRIN) grant recently awarded to the UI (see letter from BRIN administrator, Dr. Michael Laskowski). We suggest the remaining expenses be funded by reallocation from the indirect costs of grants and contracts awarded to program participants. Library resources in Moscow are not adequate for the program but will utilize the WSU library. Future support for library acquisitions will be needed. Office space to house the program and provide a designated workspace for the director and support staff will be needed.

Estimated Fiscal Impact

	FY_03	FY_04	FY_05
A. <u>Source of Funds</u>			
1. Appropriated-reallocation ^(a)	\$21,750	\$35,250	\$36,350
2. Appropriated-new			
3. Federal ^(b)	\$90,000	\$139,000	\$143,000

^(a) From IDC of grants and contracts awarded to program participants

^(b) BRIN

B. Nature of Funds

1. Recurring*	\$111,750	\$174,250	\$179,350
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SUBJECT

ASSESSMENT AND ACCOUNTABILITY UPDATE

BACKGROUND AND DISCUSSION

Karen McGee will be giving an update on current Assessment and Accountability activities.