AGENDA

MEETING OF THE
UTAH STATE BOARD OF REGENTS

March 14-15, 2002

Utah State Board of Regents
Office of the Commissioner
of Higher Education
355 West North Temple
3 Triad Center, Suite 550
Salt Lake City, Utah 84180-1205

AGENDA
STATE BOARD OF REGENTS MEETING
DIXIE STATE COLLEGE
GARDNER STUDENT CENTER
March 2002

Thursday, March 14

8:30 a.m. - 10:00 a.m. MEETINGS OF BOARD COMMITTEES

Finance and Facilities Committee
Conference Room B

ACTION:

1.	Dixie State College – Campus Master Plan	Tab A
2.	Dixie State College – Property Purchase	Tab B
3.	USHE – Tuition for Utah Electronic College and Proposed Revisions to Policy R510, *Tuition and Fees*	Tab C
4.	USHE – Proposed 2002-2003 Fee Increases	Tab D
5.	USHE – Capital Improvement Priorities for 2002-2003	Tab E
6.	UHEAA – Approving Resolution, SBR Student Loan Revenue Bonds, Series 2002V and 2002W	Tab F

INFORMATION:

7.	USHE – 2001-2002 Leased Space Report	Tab G

CONSENT CALENDAR:

8.	Consent Calendar, Finance and Facilities Committee	Tab H
	A. OCHE – Monthly Investment Report	
	B. UofU and USU – Capital Facilities Delegation Reports	
	C. UofU – Property to be Liquidated	
	D. USU – Acceptance of Donated Properties	
	E. SLCC – Sale of Property	

Academic and Applied Technology Education Committee
Cottam Room

ACTION:

1.	University of Utah – Professional Master of Science and Technology Degree	Tab I
2.	University of Utah – Minor in Latin American Studies	Tab J
3.	Utah State University – National Environmental Policy Act (NEPA) Certificate Program	Tab K
4.	Utah State University – Composite Mathematics/Statistics Education Major (Bachelor of Science Degree)	Tab L

INFORMATION:

5.	University of Utah and Utah State University – Report on Second Annual Undergraduate Poster Session	Tab M
6.	Programs Under Development/Consideration	Tab N

7. Information Calendar, Academic and ATE Committee — Tab O
   A. University of Utah – Graduate Certificate in Information Systems
   B. Utah State University
      i. Degree name changes in the Department of Business Information Systems
      ii. Name change of undergraduate minor in the Department of Instructional Technology
      iii. Name and prefix changes of areas of emphasis in the Department of Journalism and Communication
      iv. Name changes and deletion of emphases in the Department of Plants, Soils and Biometeorology

CONSENT:

8. Consent Calendar, Academic and ATE Committee — Tab P
   A. University of Utah – Instructional Design and Technology Emphasis within the Master of Science and Master of Education Degree Programs
   B. Utah Valley State College
      i. Secondary Education Emphasis in History Education
      ii. Secondary Education Emphasis in Mathematics Education
      iii. Secondary Education Emphasis in Chemistry/Physics Composite Education

10:00 a.m. - 12:30 p.m. — REGULAR BUSINESS MEETING OF THE BOARD
Ballroom

1. Institutional Report – Dixie State College Highlights
2. Biennial Assessment and Accountability Report 2002 — Tab Q
3. 2001-2002 Tuition Discussion – Public Hearing — Tab R
4. Report of the Chair
5. Report of the Commissioner
6. Reports of Board Committees
   Finance and Facilities Committee (Tabs A - H)
   Academic and ATE Committee (Tabs I - P)
7. General Consent Calendar — Tab S

12:30 p.m. - 2:00 p.m. — LUNCHEON MEETING – STATE BOARD OF REGENTS, DIXIE BOARD OF TRUSTEES, PRESIDENT HUDDLESTON, AND COMMISSIONER FOXLEY
Cottam Room

Chief Academic Officers
Conference Room B
(Buffet in Ballroom)

Chief Student Services Officers
Student Services Conference Room
(Buffet in Ballroom)

Others
Ballroom

2:00 p.m. - 5:00 p.m. COMMITTEE OF THE WHOLE
Ballroom

Master Planning Discussion Tab T

1. Overview and Discussion of 2002 Legislative Session
2. Planning Issues Identified by Regents and Presidents
3. Discussion Groups (Regents and Presidents)
   Ballroom/Conference Room B/Cottam Room

6:00 p.m. Dinner
Institutional Residence
(By invitation)

Friday, March 15

MASTER PLANNING DISCUSSION (continued from previous day)

8:30 a.m. - 10:30 a.m. Discussion Groups (Regents and Presidents)
Ballroom/Conference Room B/Cottam Room

10:30 a.m. - 11:30 a.m. Reports of Group Discussions
Ballroom

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Projected times for the various meetings are estimates only. The Board Chair retains the right to take action on either day. In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify ADA Coordinator, at 355 West North Temple, 3 Triad Center, Suite 550, Salt Lake City, UT 84180, or at 801-321-7124, at least three working days prior to the meeting. TDD # 801-321-7130.

February 27, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Dixie State College - Campus Master Plan

Issue

As indicated in the attached letter from Vice President Stanley J. Plewe, the Dixie State College Master Plan is requested to be placed on the agenda for the March 14 and 15, 2002 meeting of the Board of Regents. College Officials will be present during the Finance and Facilities Committee meeting to present the Master Plan and to respond to questions.

Recommendation

It is the Commissioner's recommendation that the Board of Regents review the Dixie State College Master Plan, ask questions of Dixie State College representatives at the meeting, and if satisfied, approve the College's Master Plan.

Cecelia H. Foxley, Commissioner

CHF/NCT/BH

Attachments

MEMORANDUM

March 7, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Dixie State College–Property Purchase

Issue

Dixie State College (DSC) officials request Regent authorization to purchase an apartment complex on 8,712 square feet of property contiguous to the College's St. George campus. The property is to be purchased from the Dixie College Foundation for $120,000. This compares to its currently appraised value of $250,000.

Background

As described in the attached letter from Vice President Stan Plewe, the Dixie View Apartments, located at 68 South 800 East in St. George, will be turned over to the College's auxiliary services and will provide 18 additional beds for DSC students (Attachment 1). The location of the property is shown in Attachment 2. Funding for the purchase will come from the College's auxiliary services. As an auxiliary facility, the complex will be ineligible for state funding of any kind according to Regents' Policies.

A condition assessment of the 33-year-old complex has been completed by DSC facilities staff. The facility was determined to be in relatively good condition, given its age. The remaining useful life of the facility is expected to exceed 30 years.

Recommendation

It is the recommendation of the Commissioner that Regents authorize Dixie State College officials to purchase the property described in Attachment A for the price of $120,000.

Cecelia H. Foxley, Commissioner

CHF/NCT
Attachments

MEMORANDUM

March 7, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: USHE - Tuition for Utah Electronic College (UEC) and Proposed Revisions to Policies R510, *Tuition and Fees*, and R506, *Inventory of Budget Related and Self Supporting Enrollments.*

Issue

The Regents are asked to adopt policy language governing the setting of tuition rates for the Utah Electronic College. If approved these changes would become effective for the 2002-2003 academic year.

Background

The Utah Electronic College (formerly Utah Electronic Community College) was established in 1998 as a means of providing improved and seamless access to the array of technology-based courses then offered by the USHE state and community colleges. At that time, the Regents established a single tuition rate per credit hour for all UEC courses. The rate was initially set as the average resident tuition and general fee charge per credit hour for all participating institutions. This rate has increased each year based on the average annual tuition increase incurred by these same institutions.

In 2002-2003, the four USHE universities will join UEC and begin offering courses as well. Through a series of meetings with participating institutions, a new two-tiered approach for setting UEC tuition has been developed and is recommended for Regent consideration. This two-tiered approach is described below.

- UEC courses offered by the four USHE universities and UVSC would carry a single per-credit-hour tuition rate based on the average tuition of these five institutions. A per-credit-hour technology fee--intended to replace the general fees assessed to regular USHE students–would be assessed as well. The 2001-2002 baseline per-credit-hour rate–on which the 2002-2003 rate would be calculated–is $90 in tuition and a $25 technology fee.

- Tuition for UEC courses offered by the three USHE community colleges and Dixie State College would take the same form as outlined above with a different tuition value based on the average tuition of these four institutions. The 2001-2002 baseline per-credit-hour rate for these four institutions would be $55 in tuition and a $25 technology fee.

- Once final action is taken by the Regents on 2002-2003 tuition rate increases, the two UEC tuition rates would be increased commensurately. Similar adjustments would occur annually.

This two-tiered approach for determining UEC tuition recognizes the higher costs of instruction at the USHE universities, while expanding the benefits that have made UEC a viable choice with students. These benefits include, access to a wide array of technology-based courses, coordinated registration and tuition payment, and lower tuition rates in credit hours 1 through 6.

Two related policy provisions are also recommended for Regent consideration at this time. These policy provisions are as follows:

- Revise Regents' Policy R510, Tuition and Fees, to clarify that students with dual enrollment at UEC and another USHE institutions should be assessed tuition according to the two separate tuition schedules.

- Revise Regents' Policy R506, Inventory of Budget Related and Self Supporting Courses, to clarify that all non-resident students taking technology-based courses (including UEC courses) are self-supporting students and are not eligible for state support.

The attached drafts of Policies R510 and R506 would implement these changes listed above (Attachments 1 and 2).

Recommendation

It is the Recommendation of the Commissioner that the Regents revise policies R510, Tuition and Fees, and R506 Inventory of Budget Related and Self Supporting Courses as detailed in the attachments.

Cecelia H. Foxley, Commissioner

CHF/NCT
Attachments

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: USHE – Proposed 2002-2003 Fee Increases

Issue

Each year following the general Legislative Session, officials of the nine USHE institutions consult with student leaders to determine the level of general student fees to be charged at their institutions during the upcoming year. As these discussions are still ongoing, information for fee increases in 2002-2003 will be hand carried to the meeting on March 14.

Cecelia H. Foxley, Commissioner

CHF/NCT/BLM

MEMORANDUM

March 7, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: USHE–Capital Improvement Priorities for 2002-2003

Issue

Attached for review and approval of the Regents is a Capital Improvement priority list for 2002-2003 to be submitted to the State Building Board for consideration.

Background

Each year following the Legislative Session, the State Building Board allocates to state agencies capital improvement funding to assist in the repair and improvement of state-owned capital facilities. This year the Legislature appropriated $49,386,000 for statewide capital improvements–an increase of $5,392,000 over 2001-2002. It is anticipated that the State Building Board will make final allocations of this funding sometime in April.

The Regents have the statutory responsibility of making recommendations to the State Building Board regarding the allocation of capital improvement funding within the USHE. The Regents have traditionally considered the following factors when determining proposed allocations: gross square footage of space being maintained (E&G space only), estimated replacement costs of such space, the age of campus buildings, safety and emergency conditions, programmatic needs, and recent history of improvement funding. The attached list of priorities has been developed based on these same factors. Input has been received from each USHE institution, the Division of Facilities Construction and Management, and the Commissioner's Office. Priorities generally follow those of the institutions.

Recommendation

It is the recommendation of the Commissioner that the Regents approve the list of Capital Improvement priorities for 2002-2003 and authorize its submission to the State Building Board.

Cecelia H. Foxley, Commissioner

CHF/NCT
Attachment

Utah System of Higher Education
2002 Capital Improvement Recommendation

Project		Amount	Rank	Type
University of Utah				
Fume Hoods--South Biology Building and Energy Mineral Science Lab Building		$673,600	1	Life Safety
Utah Museum of Natural History Fire System Upgrade		$761,800	2	Life Safety
East Campus Electrical Upgrades		$867,000	3	Regular Improvement
Electrical System Improvements--Phase III		$967,200	4	Regular Improvement
School of Medicine Fume Hood Upgrades--Phase I (Design)		$400,000	5	Life Safety
Fort Douglas Infrastructure Improvements--Phase V		$768,000	6	Regular Improvement
HPER Complex Fire Detection and Suppression Systems Upgrades		$955,800	7	Life Safety
Social and Behavioral Sciences Building Concrete/Steel Repairs		$469,000	8	Regular Improvement
Wintrobe Research Building Fume Hood Exhaust System Upgrade		$533,200	9	Life Safety
Kennecott Building Fire Detection and Suppression System Upgrades		$378,000	10	Life Safety
Roofing Projects		$500,000	NR	Roofing
Paving Projects		$500,000	NR	Paving
	Total	$7,773,600		
Utah State University				
Military Science Renovation		$1,500,000	1	Regular Improvement
Veterinary Science Electrical/Mechanical Upgrades		$300,000	2	Regular Improvement
Fine Arts Visual Fire Alarm/Generator Upgrades		$250,000	3	Life Safety
Campus Safety Lighting		$250,000	4	Life Safety
Electrical Cabling from North Substation		$200,000	5	Regular Improvement
Water Lab Make-up Air Unit		$85,000	6	Regular Improvement
Campus Fiber Optic Enhancements		$250,000	7	Regular Improvement
Stabilize Reservoir		$183,000	8	Regular Improvement
Nutrition and Food Science Chiller Replacement		$300,000	9	Regular Improvement
HPER Chiller Replacement		$100,000	10	Regular Improvement
New Well		$350,000	11	Regular Improvement
Water Lab Fire Alarm Upgrade		$200,000	12	Life Safety
Insulate Condensate Lines		$200,000	13	Regular Improvement
3 Roofing Projects		***$500,000***	***NR***	***Restore Funding***
Old Heat Plant Tunnel Asbestos Abatement		$135,000	NR	Asbestos Abatement
Roofing Projects		$500,000	NR	Roofing
Paving Projects		$500,000	NR	Paving
	Total	$5,803,000		
Weber State University				
Stevenson Office Heating and Air Conditioning		$518,600	1	Regular Improvement
Potable Water and Waste Line Replacement--Phase I		$443,000	2	Regular Improvement
Building Power Upgrades--Phase I		$960,600	3	Regular Improvement
Science Lab Elevator Replacement		$225,000	4	Regular Improvement
Concrete Repair and Replacement		$200,000	5	Regular Improvement
Underground Tunnel and Steam System Repairs--Phase II		$216,000	6	Regular Improvement

Utah System of Higher Education
2002 Capital Improvement Recommendation

Project		Amount	Rank	Type
Southern Utah University				
Condition Assessment Items		$200,000	1	Regular Improvement
Technology Building Floor Reinforcement		$50,000	2	Regular Improvement
South Main Steam Trunk Line Replacement and Utility Tunnel Extension		$96,000	3	Regular Improvement
Auditorium and Thorley Recital Hall Seating Replacement/Code Repairs		$450,000	4	Regular Improvement
Sharwan Smith Center Room #155 Completion		$425,000	5	Regular Improvement
Braithwaite Building HVAC		$500,000	6	Regular Improvement
Old Main HVAC		$500,000	7	Regular Improvement
Steam Line Replacement		***$145,000***	***NR***	***Restore Funding***
Roofing Projects		$75,000	NR	Roofing
Paving Projects (New Upper Campus Parking Lot)		$200,000	NR	Paving
	Total	$2,641,000		
Snow College				
Tunnel Continuation--Phase II		$1,000,000	1	Regular Improvement
Library Building Chiller		$225,000	2	Regular Improvement
Snow South Exterior Lighting Upgrade		$108,000	3	Life Safety
Snow South Washburn/Administration Building Covered Connection		$136,500	4	Regular Improvement
Steam Line Tunnel Replacement Library Segment		***$1,048,500***	***NR***	***Restore Funding***
Snow South Main Lot Paving		***$25,000***	***NR***	***Restore Funding***
Roofing Projects		$25,000	NR	Roofing
Paving Projects		$25,000	NR	Paving
	Total	$2,593,000		
Dixie State College				
North Instructional Building ADA and Fire Code Improvements		$295,000	1	Life Safety
Burns Arena Sound System Repair and Replacement		$54,500	2	Regular Improvement
Smith Computer Center Classroom Ceilings and HVAC		$40,500	3	Regular Improvement
Science Building Laboratory Ventilation Improvements		$370,000	4	Life Safety
Burns Arena Basketball Floor Replacement		$120,000	5	Regular Improvement
Campus Fire Alarm System Improvements		$380,000	6	Life Safety
Roadway Cross Walk Improvements--100 South Street		$500,000	7	Regular Improvement
Browning Library Roofing		***$200,000***	***NR***	***Restore Funding***
Business Building and Baseball Field Paving		***$45,000***	***NR***	***Restore Funding***
Conference Center Storage Building Asbestos Abatement		$18,000	NR	Asbestos Abatement
Roofing Projects		$50,000	NR	Roofing
Paving Projects		$50,000	NR	Paving
	Total	$2,123,000		
College of Eastern Utah				
Counseling/Testing Center Adaptive Upgrade		$37,400	1	Regular Improvement

Utah System of Higher Education
2002 Capital Improvement Recommendation

Project		Amount	Rank	Type
Utah Valley State College				
Gunther Trades Building Switchgear Replacement		$55,000	1	Regular Improvement
Hot Water Lines and Valve Replacement		$573,000	2	Regular Improvement
Science and Plant Building Adaptations		$823,000	3	Life Safety
Gunther Trades Building 6th Level Bridge Replacement		$250,000	4	Regular Improvement
Slurry Seal Lots Q and N (Paving)		***$30,000***	***NR***	***Restore Funding***
Roofing Projects (Gunther Trades Building)		$780,000	NR	Roofing
Paving Projects		$100,000	NR	Paving
	Total	$2,611,000		
Salt Lake Community College				
Swimming Pool Repairs (South City Campus)		$366,000	1	Regular Improvement
Elevator Replacements (Redwood Campus)		$219,600	2	Regular Improvement
Lifetime Activities Center Locker Room Air Conditioning (Redwood Campus)		$94,000	3	Regular Improvement
Campus-wide ADA Improvements (Redwood Campus)		$105,000	4	Regular Improvement
Chemistry Lab Upgrade (Meadowbrook Campus)		$158,600	5	Regular Improvement
VFD's at Cooling Tower Pumps (Jordan Campus)		$26,900	6	Roofing
Library Fire Sprinkler System and Exit Signs (Redwood Campus)		$257,000	7	Regular Improvement
Business Building Fire Rated Corridor Doors (Redwood Campus)		$175,700	8	Regular Improvement
Student Center Fire Rated Corridor Doors (Redwood Campus)		$260,000	9	Regular Improvement
Auto Trades Building Sewer Piping (Redwood Campus)		$212,000	10	Regular Improvement
Bleacher Repair (South City Campus)		$213,500	11	Regular Improvement
Revise Landscaping and Access to State Street (South City Campus)		$475,000	12	Regular Improvement
Perimeter Road Completion (Redwood Campus)		***$494,900***	NR	***Restore Funding***
Roofing Projects		$100,000	NR	Roofing
Paving Projects		$100,000	NR	Paving
	Total	$3,258,200		
USHE Grand Total		$31,826,000		

MEMORANDUM

March 4, 2002

TO: **State Board of Regents**

FROM: **Cecelia H. Foxley**

SUBJECT: **ACTION: UHEAA--Approving Resolution, SBR Student Loan Revenue Bonds, Series 2002V and 2002W**

Issue

At its meeting on March 1, 2002, the Student Finance Subcommittee voted unanimously to recommend Board of Regents adoption of the attached Approving Resolution for the Board's Student Loan Revenue Bonds, Series 2002V, and Series 2002W. Board of Regents adoption of the Resolution is necessary to provide authority for issuance and sale of the bonds.

Background

As directed by Policy R610, the UHEAA Board of Directors has designated persons from its membership to comprise the Student Finance Subcommittee. The Student Finance Subcommittee, in accordance with Policy R610, "shall be directly responsible, reporting directly to the Board of Regents through its Finance and Facilities Committee, for oversight and advice regarding bond issues and other financing arrangements for the Loan Purchase Program." The present members of the Student Finance Subcommittee are: Mr. John B. Goddard, Chair; Regent L. Brent Hoggan (Finance and Facilities Committee Chair); Regent David J. Grant; Regent Maria Sweeten; Ms. Elva M. Barnes; Mr. Edward T. Alter (State Treasurer); Dr. Stephen D. Nadauld; Mr. Walter P. Gnemi; Associate Commissioner Norman Tarbox; and Associate Commissioner Chalmers Gail Norris. Mr. Stringham participated in the March 1 meeting by telephone, and Regents Grant and Sweeten and Dr. Nadauld were excused due to schedule conflicts.

Pursuant to statutory authority, the Board of Regents operates its Loan Purchase Program (LPP) to assure liquidity in the local marketplace for guaranteed student loans under the Federal Family Education Loan Program (FFELP) and to maintain a high degree of control over servicing of the student loans guaranteed by the Utah Higher Education Assistance Authority (UHEAA) Student Loan Guarantee Program (LGP). By maintaining its Loan Purchase Program the Board is able to ensure availability of the lowest feasible costs of educational loans for Utah students and families through its array of borrower benefits for reduced origination fees and lower in-repayment interest rates.

Through its programs administered by UHEAA, the Board is quite unusual in providing: (1) significant cost saving opportunities on PLUS Loans (for parents) and Consolidation Loans; (2) more generous qualifying criteria for the saving opportunities; and (3) a guarantee (backed up by designated reserve funds) that the benefits will be available for loans currently being originated, regardless of how much time elapses before they enter repayment and are sold to the Board. (Most lenders and secondary markets guarantee eligibility for their borrower benefits only for loans currently being purchased.)

The Board issues Student Loan Revenue Bonds as needed, and uses the proceeds to finance purchase of FFELP student and parent loans and origination of FFELP Consolidation Loans. The Board has established two different current bond series, one based on a 1988 General Indenture and one based on a 1993 General Indenture. The current Resolution will authorize a Ninth Supplemental Indenture to the 1993 General Indenture, providing for two additional Series, 2002V and 2002W. (Series 2002V may be split into to sub-series, 2002V-1 and 2002V-2, in order to subdivide the market timing of the auctions.)

Tax Exempt Bonding Cap Authority

The amount of tax exempt bonds which the Board of Regents may issue each calendar year is subject to Federal legislation establishing capped amounts for covered purposes (e.g., public housing, guaranteed student loans, and economic development). Utah's total annual amount for these purposes is based on a floor amount for smaller population states, which has for many years been set at $150 million. Under Utah law, 33% of the total is reserved initially for the Board's student loan revenue bonds, subject to application to and approval by the Utah Private Activity Bond Authority (Authority). Current state law also provides that as much as one half of any increase in the cap authority available for Utah may be allocated by the Authority for specially-defined economic development purposes ("quality growth areas"), with the remaining amount reserved in the same proportions as specified for the base of $150 million.

In December 2000, Congress passed, and President Clinton subsequently signed, legislation which increases the formula for determining cap authority for each state. The effect, for Utah, is an increase from $150 to $187.5 million for calendar year 2001, and $225 million for 2002 and subsequent years. The Authority did not reserve calendar year 2002 increase allocation for "quality growth areas, so of the total $225 million available, 33% is $74,250,000. The Authority has approved the full $74,250,000 for LPP for Calendar Year 2002. This amount will represent the entirety of the current proposed bond issue.

Proposed Structure of the Bond Issue

The proposed structure recommended by the underwriting team and the Student Finance Subcommittee is as follows:

Proposed Sale Date:	April 3, 2002
Proposed Closing Date:	April 9, 2002

	Expected Rating	Proposed Amount	Type	Maturity
Series 2002V	AAA	$ 65,000,000	Variable Rate, Tax Exempt	11/01/2036
Series 2002W	A2	$ 9,250,000	Variable Rate, Tax Exempt	11/01/2036
Total Issue		$ 74,250,000		

All of the tax-exempt revenue bonds will be subject to Federal Alternative Minimum Tax (AMT) provisions.

The variable rate bonds will be sold as Auction Rate Certificates–Book Entry Only. The mechanism for resetting rates on the bonds is a periodic auction, approximately every 5 weeks.

Proceeds of the new bonds will be used to finance FFELP Stafford and PLUS Loan acquisitions and FFELP Consolidation Loan originations.

Proposed Not to Exceed Parameters

Proposed not-to-exceed parameters are as follows:

	Not-to-Exceed Parameter	Resolution Reference
♦ Total Principal Amount	$ 74,250,000	Section 5
♦ Maximum Interest Rate of Tax Exempt Auction Rate Certificates	14.000%	Section 5
♦ Maximum Maturity Date	11/01/2036	Section 5
♦ Underwriter's Discount	0.85%	Section 7

Maximum interest rates as listed above provide flexibility for the variable rates to float upward in the event of a prolonged and large increase in short-term interest rates in the marketplace. If that eventuality should occur, it would be accompanied by a commensurate rise in the lender return (capped student loan interest plus a Federal Government special allowance, reset quarterly) on the student loans purchased or originated with the bond proceeds. Anticipated initial interest rates are in the range of 1.5% to 2.0% for the tax exempt auction rate certificates.

Basic Documents Requiring Approval

The Approving Resolution is in final draft form. Its approval by the Board will authorize the execution of a Ninth Supplemental Indenture to the 1993 General Indenture, a Bond Purchase Agreement, and a Preliminary Official Statement.

The Ninth Supplemental Indenture is a contract between the Board and Wells Fargo Bank Northwest, as trustee, for the Bank to serve as custodian of funds and as authorized representative of bondholders in order to ensure compliance by the Board with provisions of the Indenture.

The Official Statement is a disclosure document which describes in detail the security and financial information about the bond issue. The Official Statement is used by the Underwriters to market the bonds to potential investors.

The Bond Purchase Agreement is a contract between the Underwriters (UBS PaineWebber Incorporated, Solomon Smith Barney, Wells Fargo Brokerage Services, LLC and Zions First National Bank) and the Board, which sets forth the terms under which the Underwriters will purchase the bonds. This agreement will contain the selling price of the bonds, any premium or discount, the interest rates the bonds will bear, the conditions which must be met in order to close the sale of the bonds, and a description of any restrictions on the responsibilities of the Board or the Underwriters ("Co-Managers").

The Approving Resolution delegates authority to the Board Chair, Vice Chair and/or Chair of Finance and Facilities to approve final versions of the documents described above, consistent with parameters contained in the Approving Resolution, and, along with designated Officers of the Board, to execute other necessary implementing agreements. (See Resolution sections 8 through 12.)

Copies of the draft bond documents described above are being mailed under separate cover to members of the Finance and Facilities Committee. Copies are available upon request for other members of the Board, from Richard Davis at (801) 321-7285. Assistant Commissioner Richard Davis (UHEAA Chief Financial Officer) and representatives of the Attorney General's Office and Bond Counsel will be at the Board of Regents meeting on March 14 to answer questions.

Policy Implications

Timely sale of the Board's new Student Loan Revenue Bonds is projected to ensure uninterrupted access of Utah students and families to student loans at least through September 2002. An additional financing, involving primarily taxable bonds, is contemplated for later in the current calendar year.

Options Considered

The Student Finance Subcommittee, Program Officers, Underwriters and Bond Counsel periodically review and consider a wide range of financing facilities and structures. Variable rate bonds, as recommended for the majority of the new issuance, more closely track the annual resetting of borrower interest rates and quarterly resetting of special allowances paid on the student and parent loans.

Recommendation

It is the recommendation of the Commissioner that the Board of Regents approve the attached Approving Resolution for the Board's Student Loan Revenue Bonds, Series 2002V and Series 2002W.

Cecelia H. Foxley, Commissioner

Attachment
CHF/CGN/ROD

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: INFORMATION: USHE Annual Leased Space Report

Issue

In June 1993 the Regents adopted a leased space policy calling for an "annual report of all space leased by USHE institutions, including space leased for off-campus continuing education programs and spaced leased in research parks." Board policy requires institutions to obtain prior Board approval of leases funded from state appropriations that exceed $50,000 annually or that commit the institutions to leases for a 5-year duration or beyond. Consistent with recommendations from a May 1993 report of the Legislative Fiscal Analyst, this annual report is to be reviewed by the Regents and submitted to the State Building Board for inclusion in its comprehensive 5-year building plan.

2001 Institutional Lease Summary			
Institution	Total Leases	Total Square Feet	Total Annual Lease/Rent Expenditure
U of U	85	779,763	$9,350,080
USU	14	107,409	$853,634
WSU	7	51,974	$120,790
SUU	18	40,546	$273,913
Snow	0	0	$0
DSC	1	5,840	$125
CEU	3	26,725	$60,116
UVSC	17	182,868	$718,826
SLCC	9	67,879	$604,138
TOTAL	154	1,263,004	$11,981,622

Approximately $12.0 million is expended by Utah higher education institutions for 154 leases totaling 1.3 million square feet of space. A summary of changes in leases since the last report is included as Attachment A. Attachment B lists summary information for each lease, including location, gross square feet, cost per square foot, source of revenue for lease payments, expiration date, escalations, and type of space.

Recommendation

This is an information item only. No action is required.

Cecelia H. Foxley, Commissioner

CHF/NCT/BLM
attachment

Changes in USHE Leases: Fall 2000 to Fall 2001

School	Action	Leased Property	Total Leases	Square Feet	Expenditures
University of Utah					
		2000 Total	**82**	**719,553**	**$8,066,915**
	Add	615 Arapeen - Anesthesiology	1	6,305	$109,272
	Add	615 Arapeen - Pediatrics	1	6,490	$142,776
	Add	615 Arapeen - UT Diabetes Center	1	16,811	$386,652
	Add	729 Arapeen - SoM Radiology Dept	1	1,644	$20,556
	Add	375 Chipeta - Family/Prev. Medicine Ctr.	1	28,763	$517,848
	Add	375 Chipeta - Sleep Disorder/Sinus Clinic	1	6,062	$109,116
	Add	420 Chipeta - Pediatrics Dept	1	821	$14,880
	Add	419 Wakara - Pharmacy - Medicinal Chemistry	1	4,320	$54,768
	Add	421 Wakara - Pharmacy - Cell Signalling	1	4,076	$57,024
	Add	Pediatrics Ambulatory Care Center -- PCMC	1	11,086	$143,856
	Add	Surgery Dept - 24 S 1100 E, SLC	1	1,017	$12,156
	End	Cardiology - 595 Bluff St., St. George	(1)	(5,050)	($78,000)
	End	College of Nursing - Planned Parenthood of UT	(1)	(1,240)	($9,300)
	End	546 Chipeta - Clinical Trials	(1)	(8,820)	($121,725)
	End	Energy & Geoscience - Calgary, Alberta	(1)	(165)	($8,700)
	End	421 Wakara - Pharmacy - Medicinal Chemistry	(1)	(4,076)	($54,985)
	End	Park City Clinic - 1665 Bonanza Dr., Park City	(1)	(9,361)	($270,251)
	End	Pediatrics Ambulatory Care Center -- PCMC	(1)	(800)	($12,000)
	End	Physicians Billing Office - 747-757 E S. Temple	(1)	(3,770)	($50,997)
	Change	Cont Ed - Bountiful			$4,333
	Change	Cont Ed - Sandy			$6,980
	Change	College of Nursing - Midwifery, 2180 E 4500 S			($2,004)
	Change	Dialysis Center - Bountiful			$2,789
	Change	Dialysis Center - Idaho			$1,741
	Change	Dialysis Center - Ogden		4,445	$76,479
	Change	Dialysis Center - Provo			$2,991
	Change	Dialysis Center - Sandy			$849
	Change	Dialysis Center - St. George			$2,929
	Change	615 Arapeen - Technology Transfer, Dept. of			$3,621
	Change	729 Arapeen - OB-GYN Perinatal Genetics		620	$8,651
	Change	729 Arapeen - Central Stores			$1,459
	Change	729 Arapeen - Information Technology Services			$321
	Change	729 Arapeen - Radiology Dept. Film Storage		(1,074)	($5,052)
	Change	729 Arapeen - SoM Machine Shop			$2,715
	Change	391 Chipeta - Radiopharmacy			$3,788
	Change	391 Chipeta - V.P. for Health Sciences			$11,028
	Change	410 Chipeta - Lung Health Study			$2,144
	Change	410 Chipeta - Orthopedic Billing			$616
	Change	410 Chipeta - Poison Control Center		427	$8,734
	Change	410 Chipeta - SoM Physiology and Cardiology			$17,322
	Change	420 Chipeta - Rocky Mtn Cancer Data Center			$1,438
	Change	546 Chipeta - Anesthesiologists of Pain Mngmnt			$297
	Change	546 Chipeta - Neuropsychiatric Institute			$6,634
	Change	546 Chipeta - Pain Management Center			$1,900
	Change	546 Chipeta - Preventive Cardiology			$2,871
	Change	546 Chipeta - Sports Medicine Clinic			$3,766
	Change	546 Chipeta - Utah Cancer Registry			$942

Changes in USHE Leases: Fall 2000 to Fall 2001

School	Action	Leased Property	Total Leases	Square Feet	Expenditures
University of Utah (continued)					
	Change	419 Wakara - Child Development Center			$10,387
	Change	419 Wakara - Information Technology Services		1,734	$21,836
	Change	421 Wakara - Hospital HR/Payroll			($19,663)
	Change	423 Wakara - Academic Outreach & Cont. Ed.			$869
	Change	423 Wakara - Energy & Geosciences Inst.		(4,591)	($379)
	Change	423 Wakara - Information Technology Services			$1,688
	Change	Energy & Geoscience - 865 S 600 W, SLC			$2,340
	Change	College of Engineering - 870 S 500 W, SLC			$2,448
	Change	Health Network Main Fl., 1492 W Antelope Dr.			$16,740
	Change	Heber City Eye Clinic - 1485 S Hwy 40, Heber			$2,082
	Change	Hospital Accounting - 127 S 500 E, SLC			$29,537
	Change	Hospital Home Care/Home Skilled, 2970 S Main, SLC			$3,512
	Change	Hospital Records - 134 S 400 E			$5,400
	Change	Hospitals & Clinics, Gondola Bldg, Park City		340	($935)
	Change	Medical Bldg, 555 E 200 S, SLC		2,713	$41,502
	Change	Radiation Therapy, St. Marks Hospital			$3,266
	Change	Spine Therapy Center, 1355 Foothill Blvd, SLC			$3,232
	Change	Sugar House Family Practice, Highland Dr, SLC			$3,514
	Change	Sugar House Rehab Clinic, Highland Dr, SLC			$1,346
	Change	Surgical Associates - 747-757 E S. Temple, SLC		1,483	$19,974
	Change	Urology Dept. Andrology Program - 1121 E 3900 S., SLC			$1,241
		2001 Total - UofU	**85**	**779,763**	**$9,350,080**
		(excludes residential units and 6 land leases)			
Utah State University					
		2000 Total	**19**	**128,523**	**$928,174**
	Add	Logan USU Research Park SDL Science and Summit Res.	1	6,120	$84,456
	Add	SLC: 5259 Commerce Dr. (Atrium Bldg) Grad/Cont Ed. Ctr.	1	11,186	$120,026
	End	Logan: Bookstore Warehouse, 971 S Main	(1)	(6,000)	($25,920)
	End	Logan: SAE House, 809 N 800 E, BRASC	(1)	(4,855)	($24,032)
	End	Logan USU Research Park SDL Phase #1, Bldg #3	(1)	(13,533)	($111,918)
	End	SLC: 1018 Atherton Dr - Continuing Education	(1)	(6,532)	($78,384)
	End	Mancos, CO: 33051 Hwy 160	(1)	(1,800)	($5,994)
	End	Bountiful: BRASC	(1)	(3,700)	($30,007)
	End	College Ward: 1946 S 1600 W - CSIOS	(1)	(2,000)	($7,500)
	Change	Provo: 2301 S State - Vet Diagnostic Lab			$4,733
		2001 Total - USU	**14**	**107,409**	**$853,634**
Weber State University					
		2000 Total	**7**	**43,930**	**$73,578**
	Add	Roy: 5627 S 3500 W - WSU West	1	3,760	$48,229
	End	Layton High School	(1)	(262)	($240)
	Change	Clearfield High School		(1,837)	($1,500)
	Change	Northridge High School		262	$1,080
	Change	Davis High School		525	$480
	Change	Roy High School		788	$676
	Change	North Layton Jr. High		4,200	($3,746)
	Change	Pleasant View: 1590 W Park Circle - WSU North		608	$2,233
		2001 Total - WSU	**7**	**51,974**	**$120,790**

Changes in USHE Leases: Fall 2000 to Fall 2001

School	Action	Leased Property	Total Leases	Square Feet	Expenditures
Southern Utah University					
		2000 Total	**13**	**35,732**	**$206,675**
	Add	Headstart: 141 N Main, Kanab	1	1,000	$7,800
	Add	Headstart: 710 North 195 West, LaVerkin	1	1,000	$7,200
	Add	Headstart: 494 East 900 South, St. George	1	6,016	$59,197
	Add	Headstart: 680 West 300 South, Milford	1	1,000	$7,200
	Add	Headstart: 555 West 400 South, Fillmore	1	900	$7,200
	Add	Headstart: 2460 West Hwy 56, Cedar City	1	1,462	$15,790
	Add	Shakespeare: 1100 West 800 North, Cedar City	1	4,992	$8,664
	Add	SUUSA: 1100 West 800 North, Cedar City	1	96	$360
	End	188 E 300 South, St. George	(1)	(5,600)	($24,360)
	End	174 South 100 West, Fillmore	(1)	(1,500)	($4,800)
	End	1100 West 800 North, Cedar City	(1)	(4,056)	($6,624)
	Change	Headstart: 217 East Telegraph, Washington			$576
	Change	55 West Center, Beaver		(496)	$8,730
	Change	2390 West Hwy 56, Cedar City			($19,351)
	Change	Theater Dept: 1100 West 800 North, Cedar City			($489)
	Change	Ballroom Dance: 1100 West 800 North, Cedar City			$145
		2001 Total - SUU	**18**	**40,546**	**$273,913**
Snow College		No Leases	0	0	$0
Dixie State College of Utah					
		2000 Total	**1**	**5,840**	**$125**
		No Changes			
		2001 Total - DSC	**1**	**5,840**	**$125**
College of Eastern Utah					
		2000 Total	**5**	**32,325**	**$63,126**
	End	Blanding: Armory	(1)	(5,600)	($10)
	End	Price: 300 East 400 North, .43 acres	(1)		($3,000)
		2001 Total - CEU	**3**	**26,725**	**$60,116**
Utah Valley State College					
		2000 Total	**19**	**191,238**	**$735,652**
	End	American Fork Education Center	(1)	(6,370)	($60,515)
	End	Dental Hygiene (Bailey, DDS)	(1)	(2,000)	($12,000)
	Change	Heber Utah (Townley)			$13,800
	Change	Heber Utah (Bennett)			$10,040
	Change	Airport Hangar #2			$31,849
		2001 Total - UVSC	**17**	**182,868**	**$718,826**

Changes in USHE Leases: Fall 2000 to Fall 2001

School	Action	Leased Property	Total Leases	Square Feet	Expenditures
Salt Lake Community College					
		2000 Total	**10**	**94,172**	**$667,444**
	Add	331 North 2370 West Executive Terminal	1	2,445	$26,944
	Add	511 West 200 South (Arts Space)	1	1,262	$10,413
	End	9221 South Redwood Road, West Jordan	(1)	(2,950)	($39,282)
	End	410 No. Wright Bros. Drive, SLC	(1)	(26,500)	($72,180)
	End	180 North 2400 West	(1)	(550)	($6,600)
	Change	551 North 2200 West, Airport (2 Hangers)			$144
	Change	830 East 9400 South, Sandy			$13,707
	Change	1431 East 3900 South, SLC			$3,548
		2001 Total - SLCC	**9**	**67,879**	**$604,138**
USHE TOTAL		**2000 Total**	**156**	**1,251,313**	**$10,741,689**
		2001 Total	**154**	**1,263,004**	**$11,981,622**
		Total Leases Added:	**24**	**128,634**	**$1,972,383**
		Total Leases Ended:	**26**	**(127,090)**	**($1,119,324)**
		Total Leases Changed:	**67**	**10,147**	**$386,874**
		Total Increase:	**(2)**	**11,691**	**$1,239,933**

MEMORANDUM

March 1, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Action: Consent Calendar, Finance and Facilities Committee

It is the recommendation of the Commissioner that the Regents approve the following items on the Finance and Facilities Committee Consent Calendar:

1. OCHE Monthly Investment Report (Attachment A). Board Policy R541, Management and Reporting of Institutional Investments, requires the Finance and Facilities Committee of the Regents to review and approve the investment report of the Office of the Commissioner on a regular basis. All operating funds of the Office of the Commissioner are invested with the University of Utah Cash Management Pool. The investment report for February 1, 2002 for the Office of the Commissioner is attached.

2. UU and USU Capital Facilities Delegation Reports (Attachment B). In accordance with the capital facilities delegation policy adopted by the Regents and by the State Building Board, the attached reports are submitted to the Board for review. Officials from the institutions will be available to answer any questions that the Regents may have.

3. UU Property to Be Liquidated (Attachment C). The University of Utah would like to sell the following properties: (1) Bountiful residence donated from the Edna Pass Estate; (2) Residence on 13th East donated from the Estate of We Bai Hu; (3) UUHN Building on 3rd South in Salt Lake City; (4) Ten acres of recreational property in Strawberry Estates, donated by John S. and Ilse F. Young; (5) Eighteen small lots and a residence in Millford, donated by Dr. David A. and Phyllis Symond; and (6) two lots in Vista Valley Estates subdivision, donated by Norihiko and Yoko Fukuta. Proceeds from the donated property will go to the beneficiaries as directed by the donors, and proceeds from the UUHN Building will go to reimburse the fund from which the building was purchased. The University seeks Regents' approval to sell these properties.

4. USU - Acceptance of Donated Properties (Attachment D). This proposal is the conclusion of a ground lease (from USU to Tri-Park) and related building lease (from Tri-Park to USU) which was implemented on January 17, 1992. The building was to be surrendered to USU at the end of the ten-year lease providing all payments had been made. The proposal has been reviewed and approved by University administrators and the Board of Trustees. Officials from USU will be available at the February Board meeting to answer any questions that the Regents may have.

5. SLCC Property to Be Liquidated (Attachment E). As stated in the attached letter from President H. Lynn Cundiff, Salt Lake Community College would like to sell a ten acre parcel of property located up Parley's Canyon. A neighboring landowner has offered to pay $14,000, the fair market value of the land. The College seeks Regents' approval to sell this property.

Cecelia H. Foxley, Commissioner

CHF/NCT/BH
Attachments

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: University of Utah Request to Offer a Master of Science and Technology Degree--Action Item

Issue

Officials at the University of Utah (UU) request approval to offer a Master of Science and Technology Degree, starting Fall Semester, 2002.

Background

The proposed Professional Master of Science and Technology (PMST) Degree Program will fuse multiple science fields with computer science and integrate science with other professional domains. This interdisciplinary program advances the disciplinary knowledge attained during baccalaureate education in science or mathematics and melds it with knowledge about management and organizations. The proposed program will be a non-thesis program that provides students with a balance of theory and practice.

The proposed Professional Master of Science and Technology Degree will normally be completed with 36 hours of coursework beyond the B.S degree. The courses will be divided into two groups—core courses and track-specific courses. All students admitted to the program will take the core courses.

The proposed degree utilizes a cohort to extend education beyond completion of coursework and into a variety of activities designed to help students become members of their professional community. Students periodically visit various businesses, industrial sites, and government agencies to get a better feel for the skills needed in the job market. An essential component of this degree program is an internship or cooperative education experience in business, industry, commerce, or government. These activities engage students in real world work situations involving technical problems, teamwork, and communication skills. Periodically held colloquia provide cohorts with opportunities for peer learning about activities in professional communities

A grant from the Sloan Foundation provided an impetus for the development of the Professional Master of Science and Technology Program. Data from a variety of sources indicate a need for people in management positions who have a high-level education in science/mathematics. On a national level, professional specialty occupations are projected to have the fastest rate of growth *and* the largest increase in number of jobs from 1998-2008. The Bureau of Labor Statistics (BLS) states that there will be 199,000 job openings for managers in engineering, natural science, computer, and information systems.

In addition to the labor market demand analysis, there is evidence of strong student demand for the program. Since the UU's participation in the Sloan initiative was announced April 4, 2001, the Graduate School has already responded to over a dozen inquiries from potential students.

No new funds will be needed for the proposed program. Funds from the Sloan Foundation will cover the costs for the first three years, and enrollment funding or internal reallocation will be available to sustain the program after that time.

Policy Issues

The institutional Board of Trustees has approved this proposal. No USHE institution expressed opposition to this proposal.

Options Considered

After the Regents have reviewed the proposal from the University of Utah to offer a Master of Science and Technology Degree, they may raise issues, request additional information, deny the proposal, or approve the request.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents approve the request from University of Utah to offer a Master of Science and Technology Degree, beginning Fall Semester, 2002.

Cecelia H. Foxley, Commissioner

CHF/GSW
Attachment

ACADEMIC AND APPLIED TECHNOLOGY EDUCATION COMMITTEE

Action Item

Request to Offer a Master of Science and Technology Degree

University of Utah

Prepared for
Cecelia H. Foxley
by
Gary S. Wixom

March 6, 2002

SECTION I

The Request

University of Utah officials request approval to offer a new Professional Master of Science and Technology Degree (PMST) with three tracks of specialization: Computational Science, Science Instrumentation, and Environmental Science. This new Degree will be effective Fall Semester 2002. The institutional Board of Trustees approved the program on December 10, 2001.

The New York-based Alfred P. Sloan Foundation is helping launch new professional M.S. Degrees in 12 institutions of higher education that have strong graduate programs in the sciences and mathematics. The University of Utah is among these universities and is receiving $400,000 during the next three years to develop this new professional master's program.

SECTION II

Program Description

Program Description. The proposed Professional Master of Science and Technology Degree fuses multiple science fields with computer science and integrates science with other professional domains. This interdisciplinary program advances the disciplinary knowledge attained during baccalaureate education in science or mathematics and melds it with knowledge about management and organizations. This non-thesis program provides students with a balance of theory and practice. The theoretical knowledge is developed within the context of practical business and industrial applications.

The Professional Master of Science and Technology Degree will normally be completed with 36 hours of coursework beyond the B.S. The courses will be divided into two groups: core courses and track-specific courses. All students admitted to the Professional Master of Science and Technology program will take the core courses. There will also be courses specific to the areas of specialization.

The proposed degree utilizes a cohort to extend education beyond completion of coursework and into a variety of activities designed to help students become members of their professional community. Students will periodically visit various businesses, industrial sites, and government agencies to get a better feel for the skills needed in the job market. An essential component of this degree is an internship or cooperative education experience in business, industry, commerce, or government. These activities engage students in real world work situations involving technical problems, teamwork, and communication skills. Periodically held colloquia provide cohorts with opportunities for peer learning about activities in professional communities.

Purpose of Degree. The Professional Master of Science and Technology Degree will integrate graduate coursework in track-specific science and math disciplines with courses covering business and management concepts. This combination of courses and an internship will provide students the theory *and* practice essential for leading activities in a variety of business and agency settings. Graduates from this program will be well equipped to deal with workplace activities such as problem solving, decision making, working in a team, and learning on their own.

Admission Requirements. The minimum requirements for admission to the PMST Degree are the same as those required by the Graduate School:

1. An undergraduate GPA of at least 3.0, based on all undergraduate work or work completed during the last two years of study, whichever is higher.
1. A bachelor's degree from a fully accredited college or university.
2. Recommendation of the faculty in the college or department in which the applicant wishes to study.

Departments and colleges offering one of the three specific tracks may require evidence of course work and/or work experience within that discipline.

Student Advisement. During the implementation phase of the program, there will be two levels of student advisement. The first level, general questions about the program, will be provided by the Program Director in the Graduate School. This position was created with support from the Sloan Foundation funding. Continuation of this position will depend upon an assessment of the program at the end of year 3. The second level, specific curricular advising, will be provided by full-time, tenure-track faculty in the track-specific departments.

Justification for Number of Credits. Each of the tracks in the proposed program will require a minimum of 36 credit hours beyond the baccalaureate, which is within the Regent's guidelines.

External Review and Accreditation. University of Utah officials received advice from several external reviewers during the Sloan application process. First, Sheila Tobias, an author of several books including Rethinking Science as a Career and an educational consultant supported by the Ford, Rockefeller, and Sloan Foundations, came to the University of Utah during the early planning phase for the Sloan application. Due to her role as Coordinator for the Sloan Foundation Science Master's Outreach Project, Sheila provided valuable insight regarding pitfalls and progress at the other professional master's programs.

The Sloan Foundation arranged a second source of external review after the first draft of the proposal was written. Five reviewers from peer institutions who are associated with professional master's programs provided blind-review comments.

The success of this program depends on the partnerships developed between the University and the work place. As a whole, the University is often isolated from the very businesses, industries, and government agencies for which it is preparing students. The third, and perhaps most valuable source of external review, came during meetings with a variety of mangers in the scientific business sector; they helped to identify how a professional master's degree would be a value-added investment for students and employers. These business people are very supportive of the proposal.

A Program Advisory Board will be created in order to maintain a flow of information between the scientific business sector and this program. The eleven members of the board will include:

- David Chapman, Dean of the Graduate School
- Rebecca Raybould, Program Director
- 6 business affiliates (2 from each track)
- 3 faculty

As the program matures, the business members will include an alumni and a business leader for each track; this will provide the board with additional new perspectives. An annual spring meeting for the Program Advisory Board will provide time for exchanging information pertinent to the entire program. Smaller track-specific meetings will be held as needed to discuss curriculum and internship issues relevant to the track.

In addition to the Advisory Board, there are several groups on campus that can provide access to other potential business affiliates for the program including The Office for Technology Transfer, The Bureau for Economic Development, and Career Services. Nearby University Research Park, which assists the economic growth of Utah by providing a site for high-technology research and development, is convenient for site visits and internships.

Professional accreditation is not available for the proposed degree.

Projected Enrollment. Table 2 presents projected enrollment figures for the PMST Program. This enrollment is based on a pilot cohort of five students per track during the 2002-03 academic year. During the next year, a slightly larger cohort of approximately eight students per track would be admitted. Then in 2004-05 and beyond, cohorts of approximately 10 students per track would be admitted. Ideally students will graduate two years after they begin the program.

Table 2. Projected 5-year Enrollment for PMST Program

	2002-03	**2003-04**	**2004-05**	**2005-06**	**2006-07**
New students	15	24	30	30	30
Existing students	0	15	24	30	30
Total	15	39	54	60	60

Graduate enrollment in the Science Departments (Biology, Chemistry, Geology and Geophysics, Mathematics, Meteorology, and Physics) has averaged 461 students from Fall

Semester of 1995 through Fall Semester of 1999. The projected enrollment from the PMST Program will increase the total number of graduate students in these departments by 3 percent in 2002 to 13 percent in 2005.

Expansion of Existing Program. The new PMST program largely takes advantage of existing courses at the University of Utah. No additional resources are required beyond the funds provided by the Sloan Foundation for start-up costs to administer the program and develop a small number of new courses. The new bundle of courses will appeal to a new pool of students who will want to take advantage of the offerings, expanding rather than redistributing the student body.

The new program will significantly increase the emphasis on master's level training in the sciences at the University. Table 3 displays the number of M.S. Degrees that have been conferred at the University of Utah from 1996 to 2000 in the disciplines related to the three tracks of the new PMST Program. Expanding the total number of degrees conferred by 10 to 30 per year will be significant.

Table 3: Science M.S. Degrees Conferred at U of U 1996-2000

Discipline	**1995-96**	**1996-97**	**1997-98**	**1998-99**	**1999-2000**
Biology	7	4	4	0	1
Chemistry	5	11	9	9	11
Geology & Geophysics	9	9	9	12	6
Mathematics	13	12	9	6	15
Meteorology	2	4	7	4	2
Physics	7	9	6	10	6
TOTAL	43	49	44	41	41

Faculty. No additional faculty are required in order to implement the proposed Degree.

Staff. The Program Director and secretarial support are funded for three years (until June 3, 2004) by the Sloan Foundation. These positions may continue after the three years, funded by revenue from tuition. Teaching assistants, graduate assistants, and instructors may be added when student numbers justify them and when the revenue from tuition and SCH accumulation justifies it.

Library. The University of Utah library has always maintained a good supply of materials in the areas of science and technology. The proposed program requires no resources beyond those available to maintain good programs in the three program tracks.

Learning Resources. No additional learning resources are required to support the proposed program.

SECTION III

Need

Program Necessity. The Sloan Grant provided an impetus for UU officials to examine the development of a new degree program, a Professional Master of Science and Technology program. Data from a variety of sources including Bureau of Labor Statistics, Utah Department of Workforce Services, several offices at the University of Utah (Bureau of Economic Development, Career Services, and Academic Outreach and Continuing Education), newspaper classified ads, and conversations with leaders in local business and education organizations, indicate a need for people in management positions who have a high-level education in science/mathematics. Many of the surveys used in the needs analysis refer to engineering, technology, and science related jobs. The PMST Program will address the latter two career areas; it is not an engineering program.

State Government Perspectives

Utah's Governor Leavitt acknowledged the need for people with high-level education in science/mathematics when he announced a higher education initiative last year to double in five years and triple in eight years the number of engineering, computer science and technology-related graduates from Utah universities, colleges and applied technology centers. "Education and prosperity are linked," said Leavitt. "The key to our state goal of having better paying jobs is to have better educated workers. By increasing the investment in education, we will keep the momentum of our strong economy."

Another initiative spearheaded by Leavitt in 2000, the Utah Silicon Valley Alliance, is also tied to the need for high-level employees with strong technical knowledge. The Alliance is a strategy to create more high-tech jobs in Utah. Members of the Academic Institutions Committee and the Work Force Committee believe that the current efforts to educate students for high-tech jobs is lacking. During the August 2000 meeting, these committees identified problems regarding the current relationship between education and business, including:

- Good engineering and science curriculum is in schools, but school curriculum doesn't keep pace with rapidly changing industry requirements.
- Better integration of technical and business related classes is needed for science and engineering students.
- Schools are unable to predict industry needs (both curriculum and demand for graduates) four to six years into the future.

Both of these initiatives demonstrate a need for programs like the PMST program which will produce technology-related graduates from science and mathematics with better integration of technical and business related knowledge.

Future Employer Perspectives

An essential part of the needs analysis included contacting potential future employers. University officials have initiated conversations with Utah Information Technologies Association (UITA) and Utah Life Sciences Association (ULSA). UITA's constituency includes over 2,500 information technology vendor enterprises and over 1,000 eBusiness enterprises in Utah. ULSA's members include pharmaceutical, genetics, and medical instrumentation businesses. These organizations recognize there is a shortage of the technical, professional employees they would like to hire. Both of these organizations have stated objectives to help develop, attract, and retain a skilled workforce and have stated an interest in working with the University of Utah to develop the new program.

Survey results gathered last year by UITA's Skilled Workforce Committee (56 of 240 technology members replied) included the following:

- 94 percent of the companies are having difficulty meeting their need for qualified engineers and technical people,
- 42 percent of technical positions are not filled due to skilled workforce shortages,
- given an adequate supply of qualified applicants, there would be an average of 23 new hires per company, and
- the average starting salary range for engineers/computer scientists at the Bachelors level is $45-60 thousand.

Top skills employers desire are:

- content competency,
- communication (at multiple levels, from technical to general),
- teamwork, and
- scientific methods including ability to organize disparate information, develop models of all sorts, and do something predictive with those models.

The interdisciplinary curriculum of the Professional Master of Science and Technology Program will address each of these areas and graduates will help fill empty technical positions in a variety of technology related businesses and organizations.

Labor Market Demand. On a national level, professional specialty occupations are projected to have the fastest rate of growth *and* the largest increase in number of jobs from 1998-2008. The Bureau of Labor Statistics (BLS) states that there will be 199,000 job openings for managers in engineering, natural science, computer, and information systems. Graduates with science/mathematics and business knowledge will be well prepared for these careers. Other data from the BLS demonstrating the national labor market demand for graduates from a program similar to the Professional Masters of Science and Technology Program include:

- Professional specialty occupations are projected to have the fastest rate of growth and the largest increase in number of jobs.

- Two-thirds of the 30 fastest growing occupations are in computer or health-related fields; the rest are in areas such as social services, legal, natural science, and financial services. These jobs require a bachelor's degree and work experience or a higher degree. The hourly earnings have a quartile ranking of '1 = very high' ($16.25 and over).

- Other job openings related to Professional Science Master's Degree holders:
  - Engineering, natural science, computer, and information systems managers (199,000)
  - Conservation scientists and foresters (17,000)
  - Medical scientists (17,000)
  - Actuaries (3,000)
  - Statisticians (3,000)
  - Mathematicians and other mathematical scientists (2,000)
  - Chemists (35,000)
  - Geologists, geophysicists, and oceanographers (18,000)
  - Physicists and astronomers (5,000)
  - Clinical laboratory technologists and technicians (93,000)
  - Science and mathematics technicians (68,000)
  - Chemical equipment controllers, operators, and tenders (35,000)

  (Note: Job openings due to growth and net replacements 1998-2008)

State Outlook

State statistics reflect similar trends. Professional and paraprofessional jobs will produce the most new annual job openings (12,400) in Utah from 2000-2005. The salaries for jobs in these categories are among the highest, with average annual earnings of $49,088 for biological scientists to $68,848 for managers in engineering, natural science, and information systems (see Table 4.)

Table 4: Utah Department of Workforce Services Employment Projections 2000-2005

Occupation	Annual Job Openings	Avg Hourly Earnings	Avg Annual Earnings
Biological Scientists	50	$23.60	$49,088
Managers, Engineering, Nat Sci, Info Sys	180	$33.10	$68,848
Managers, Medical/Health Services	160	$25.70	$53,456
Medical/Clinical Lab Technologists	60	$17.80	$37,024
Sales Reps, Technical	200	$24.70	$51,376

Summary of Needs Analysis

There is a high demand for people who have advanced science/mathematics education,

business acumen, and first-hand experience in applying their content knowledge in an organizational setting. National and state statistics show that professional specialty occupations are projected to have the fastest rate of growth *and* the largest increase in number of jobs from 1998-2008. The initiatives introduced by Governor Leavitt indicate the state government recognizes the need to increase the number of graduates with technical training for careers outside of academia. One-on-one conversations with business leaders also support this finding of the needs analysis.

In addition to the findings concerning the educational needs that a new program might address, the analysis reveals two findings that are related to the process of developing the new program. First, as Thayne Robson, Director of the Bureau for Economic Development at the University of Utah remarked, this new program is pioneering new territory. Labor statistics, Governor Leavitt, and the business leaders describe workforce needs using terms of current discipline-based degrees such as engineering, computer science, mathematics, and physics. New categories are being created to describe skills and knowledge, the bundle of human talent, that are needed to be effective in a rapidly changing, technical, multidisciplinary job market. Developing, introducing, and maintaining this new program will require the Universtiy to move beyond a discipline-based frame of mind.

Second, in order for the new PMST Program to be viable and responsive to rapid changes taking place in the technology sector, a needs analysis must be an integral part of the program and an *ongoing process*. Conversations with government agencies must be initiated, and conversations already begun with businesses must be continued. The UU science/mathematics alumni who are employed in a variety of organizations are a potentially valuable, as yet untapped, source of information for curriculum development. In addition, visits to the workplace settings are an important part of gaining a better understanding of the needs that the program is trying to address and will be part of the ongoing needs analysis process.

Student Demand. In addition to the labor market demand analysis, and since the UU's participation in the Sloan Initiative was announced April 4, 2001, the Graduate School has already responded to over a dozen inquiries from potential students.

Similar Programs. No identical programs are offered elsewhere in the state or Intermountain Region. Nationwide, since 1997, the Sloan Foundation has funded the development of multi-track professional masters of science programs at 12 institutions of higher education including the University of Utah; see www.sciencemasters.com for more details. Table 5 displays the 11 peer universities with these programs in development or currently being offered. There is very little overlap among the program tracks.

Table 5. Sloan Funded Multi-track Professional MS Programs

Institution	Program Tracks
Georgia Institute of Technology	Human-Computer Interaction Bioinformatics Quantititative Computational Finance Prosthetics and Orthotics
Michigan State University	Applied Physics Computational Chemistry Industrial Microbiology Integrated Pest Management Industrial Mathematics Physics - Modeling and Simulation Zoo and Aquarium Science Management
Oregon State University	Applied Biotechnology Applied Physics Biological Quality Systems Analysis Environmental Science
Pennsylvania State University	Applied Statistics Bioanalytical Chemistry Biotechnology
Rice University	Catalysis Chemistry Energy & Environment Nanoscale Physics
Worcester Polytechnic Institute	Industrial Mathematics Quantitative Finance (Financial Mathematics)
University of Arizona	Applied and Industrial Physics Mathematical Sciences Applied Biosciences
University of Pittsburgh	Geographical Information Systems (GIS) Mathematical Sciences
University of South Carolina	Biotechnology Environmental Geosciences Modeling for Corporate Applications
University of Southern California (USC)	Physics with Business Applications Environmental Risk Management Bioinformatics Computational Linguistics
University of Wisconsin	Environmental Monitoring Computational Science

There are *somewhat* similar programs offered at the University of Utah for each of the program tracks:

Similar Program at UU	PMST Track
MS Computational Engineering and Science	Computational Science
MS Physics, Instrumentation Specialty	Science Instrumentation
MS Environmental Engineering	Environmental Science

Although over half of the curriculum is the same, there are significant differences between the current MS programs at the University and the proposed PMST tracks. The current MS programs are oriented to research, requiring a research project and/or a thesis. These programs are also directed to engineering; for example students in the Physics Instrumentation Specialty take part in developing an instrumentation project.

The proposed PMST tracks will provide students with advanced discipline coursework in math/science and exposure to business/organizational contexts. One fourth of the curriculum in this program consists of business courses. The curriculum also includes an internship to help students integrate theory with practice.

Collaboration with and Impact on other USHE Institutions. No other USHE institutions are offering the program and no collaborative efforts have been proposed.

Benefits. Faculty participating in the PMST Program will have the opportunity for increased interactions with the scientific business community. As faculty work with students in these endeavors, their own research skills improve and their knowledge of the profession expands along with their students' knowledge. There is a potential for multi-directional technology transfer among the various organizational arenas.

Consistency with Institutional Mission. The PMST program is consistent with and appropriate to the institution's board-approved mission, roles, and goals on several levels. First, the PMST Program will meet a specific strategic goal of the graduate school, which is to expand both the number and variety of graduate programs offered at the University. Second, the interdisciplinary nature of the PMST Program and the various opportunities for connecting with the workplace (e.g., internships, guest speakers, site visits) align with the University's teaching goal that encourages interdisciplinary work and familiarity of students with a changing world. Finally, the partnerships between the University and the science business sector developed for the purpose of PMST internships potentially lend themselves to cooperative research activities, which is another University goal.

SECTION IV

Program and Student Assessment

Program Assessment. Measures that will be used in the program assessment process

include: enrollment levels, graduation levels, placement data (types of jobs, salary), and satisfaction levels (faculty, students, and employers). In addition, the advisory committee will review and respond to assessments to strengthen the program and the links between industry and the University.

Expected Standards of Performance. In addition to knowledge specific to the disciplinary track, these standards and competencies are expected of all PMST graduates:

1. Advanced disciplinary competencies include advanced modeling and problem solving techniques, and computational techniques. Students will learn:

- how to build models for complex systems: how to identify the key variables, how to represent their role in a simple way that can be studied on computers, how to assess the results, and proceed by successive improvements; and,
- advanced computing techniques including running large scale simulation, visualization techniques, and handling large databases.

2. Business competencies include written and oral communication, teamwork, and a survey of business knowledge. Students will be able to:

- present their work both written and oral in a form suitable to their audience. It is expected that the work will be presented to technical and non-technical individuals;
- work both independently and as members of a team in a workplace setting; and,
- understand and use financial instruments, such as budgets, profit and loss statements, and cash flow statements, to make informed decisions within business settings.

Student Assessment. As part of the evaluation of their internship, students will be required to write a paper describing their experience. They must be able to demonstrate that this was an integration of student learning and their ability to apply principles in coursework to industry settings.

The PMST Program is designed for students to go through in cohorts in two years. Graduate school requirements of four years maximum for completion of a master's degree also applies. Student progress will be tracked according to these parameters.

Continued quality improvement. There are many sources for collecting data to improve the quality of the PMST Program including: 1) course surveys from current students; 2) exit interviews from graduates; 3) discussions with professors, and, 4) conversations with business partners, especially those participating in internships. Networking with other professional master's degree programs is another potential source for getting ideas for program improvement. The Sloan Foundation has created a listserv for program directors and faculty to exchange questions and information.

Data collected and analyzed annually will be presented to the Advisory Committee and used to improve the programs. When changes are warranted, in view of the multiple assessment instruments, they will be presented to the Advisory Board and upon approval be implemented to

improve the program.

SECTION V
Finance

Cost.

Budget and Funding Sources

No additional funds are being requested for the PMST Program. Table 6 displays projected expenses from May, 2001 through May, 2006. Sloan funds will cover these components of the budget for the first three years:

- Part-time staffing for the overall program direction;
- Release time to allow for curriculum development, with more work being needed in Year one and less by Year three;
- Release time for developing relationships with business/industry/agency affiliates;
- Recruitment–more money will be spent during Year one on developing web pages, then funds will shift to other recruitment expenses;
- As the program ramps up in Year one, more funds will be allocated than in the following years for a planning workshop and travel.
- The Reduced Indirect Costs reflects Sloan's limit of 15 percent of their total direct costs.

Table 6. Expenses — Covered by Sloan Grant — Post-Sloan Grant

Budget Categories	**2001-02**	**2002-03**	**2003-04**	**Sub-Total**	**2004-05**	**2005-06**
Salary - Senior	26,000	27,000	28,000	81,000	29,120	30,285
Salary - Other	5,000	5,000	5,000	15,000	6,000	6,000
Salary - Hourly	5,000	5,000	5,000	15,000	6,000	6,000
Benefits	5,500	6,500	8,000	20,000	8,000	8,500
Current Expenses:						
Curriculum Development	72,500	50,000	27,500	150,000		
Recruitment – Students & Industry	16,000	11,000	10,000	37,000	10,000	10,000
Other – Office, Meetings	4,500	4,500	3,000	12,000	4,500	4,500
Library	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Travel	6,000	6,000	6,000	18,000	8,000	8,000
Total Dir. Costs	140,500	115,000	92,500	348,000	71,620	73,285

Reduced Indirect Costs (15%)	21,075	17,250	13,875	52,200	
Total Budget of Sloan $$	161,575	132,250	106,375	400,200	

Business Plan

Sloan funding was requested to *initiate* the new Professional Master of Science and Technology Program at the University of Utah. A financial strategy is needed, however, to ensure *sustainability* of the new degree program. Fortunately, the University of Utah has formula funding for student credit hour (SCH) growth that will directly replace Sloan funding after year three of the grant. If enrollment growth funding is not available, funds will be made available through institutional reallocation. In addition, there are strong financial incentives for individual departments, and the Graduate School, to maintain the program and to have it grow.

The current funding model at UU returns to each department generating SCH growth approximately $105 annually per SCH at the master's level (see Table 7). That amount is expected to increase by 4 percent annually, resulting in a direct payout of $118 per SCH for the 2004-05 academic year when Sloan funding is phased out. It is calculated that new revenue for 54 students (one cohort group of 30 and one cohort group of 24, or 18 in each of the three tracks) taking 18 SCH per year (9 SCH per semester) to be $125,136 annually. This amount is in excess of the annual direct costs budgeted in this proposal.

In addition to the minimum SCH payout calculated above, there are other revenue streams that can be explored to nourish and expand the PMST Program. These revenues include: a "quality fund" pool related to SCH growth, an "incentive fund" pool available for adding future tracks, industrial funding of fellowships, and hard funding of the Program Director's salary. Additional revenue will accrue to the program when courses that make up the Advanced Quantitative Skills and the Transferable Skills are bundled into formal graduate certificate programs. It is anticipated that such certificates will draw from graduate students outside the program and from science professionals within the community.

Table 7. Revenue from Projected Enrollment Growth

Term	**Number of Students**	**SCH per Student**	**Cost per SCH**	**Total per Term**	**Total per Year**
Fall 2002	15	9	$109	$14,715	
Spring 2003	15	9	$109	$14,715	
Summer 2003	15	3	$109	$ 4,905	Year 1 $34,335
Fall 2003	39	9	$114	$40,014	
Spring 2004	39	9	$114	$40,014	
Summer 2004	24	3	$114	$ 8,208	Year 2 $88,236
Fall 2004	54	9	$118	$57,348	
Spring 2005	54	9	$118	$57,348	
Summer 2005	30	3	$118	$10,620	Year 3 $125,316
Fall 2005	60	9	$123	$66,420	
Spring 2006	60	9	$123	$66,420	

Summer 2006	30	3	$123	$11,070	Year 4	$143,910
Fall 2006	60	9	$128	$69,120		
Spring 2007	60	9	$128	$69,120		
Summer 2007	30	3	$128	$11,520	Year 5	$149,760

Impact on Existing Budgets. For the most part a positive impact is expected on existing budgets of other programs. Based on interest demonstrated to date, it is expected that the Professional Masters of Science and Technology Program will draw students from a different pool than existing programs, attracting people not presently enrolled at the University of Utah. If students are drawn from existing MS programs to the new Professional Masters, many student credit hours will still accrue within the department of original study because many existing courses from these departments will be used.

Appendix A

Courses Currently Offered

Program Curriculum.
New Courses to be Added in the Next Five Years:

	Course Number	Title	Credit Hours
(new)	**ACCT 6xxx**	**Project Management**	**1.5 hrs**

This course provides students with the skills necessary to manage a project from inception to completion, employing various techniques of working, planning, control, and evaluation for project success.

(new) MATH 6xxx Lab for Statistical Inference 1 hr

(Advanced Quantitative Skills - Data Analysis)

Applied data analysis. Introduces students to one or more statistical software packages (S+, SPSS, SASS). Students will analyze different data sets and write up reports explaining the findings and the meaning of the findings.

(new) MATH 6xxxx Internship in Mathematics 3 hrs

Similar to MATH 4910. Computational science-related work in industry, business, or government.

(new) PHYCS 6xxxx Reasoning/Problem Solving 2 hrs

(Advanced Quantitative Skills - Reasoning)

Case studies in problem-solving drawn from such fields as political science, sociology, history, psychology, anthropology, linguistics, geography, medicine, engineering, mathematics, and the sciences are presented. Attacks on such diverse issues utilize a common set of problem-solving heuristics (tips, cues, suggestions, strategies) made explicit during the search for solutions. Also presented are a number of problem-solving tools, each of which is used extensively in many of the disciplines - tools such as probability theory, decision-making, game theory, model-making, graph theory, and the logic found in the use of ordinary language. Applied data analysis.

(new) PHYSC/CHEM 6xxxx Internship in Science Instrumentation 3 hrs

Student internships and work experience in jobs related to science instrumentation.

(new) GEO 6400 Mathematical Modeling in Environmental Systems 3 hrs

Computer and field methods for solving applied geoscience, hydrology, and

biology problems. Develops the computer and field skills required to solve problems in landscape evolution, geologic hazards, land use and natural resources. Various techniques of mathematical modeling of a range of biological systems, including ecology, physiology, cell biology, and genetics.

All Program Courses (36 hrs total)

Core Courses Transferable Skills (6 hrs)

Course Number	Title	Credit Hours
ACCTG 6000	**Financial Accounting**	**3 hrs**

Designed to provide students with an understanding of the financial reporting process followed by all public and many private companies. Students gain the ability to read and understand published financial statements and perform formal financial analysis.

MGMT 6050 Laying the Foundations of Teamwork 1.5 hrs

The purpose of this course is to understand the theory and processes of working in a group or team. The course is designed to be relevant to the broad spectrum of problems that are faced in a variety of group settings. Students will learn analytical and behavioral tools to effectively diagnose complex dynamics in work groups and take action to improve group performance. Students will also learn practical interpersonal skills useful for implementing effective strategies in group situations. The course is intended to help students be more effective while working in study groups and later working in groups and teams once they graduate. Considerable emphasis will be placed on simulations, role-playing, and cases. This course will incorporate many of the topics that are currently being addressed during orientation and will culminate with the business challenge.

MGMT 6052 Business Communication 1.5 hrs

This course explores the underlying concepts and the various techniques necessary for effective communication for managers and leaders in today's ever-changing workplace. In this course we examine the similarities and differences between writing and speaking in a business context. Students learn both communication theory and the practical application of communication excellence. This course covers managerial communication on three levels: interpersonal/supportive communication, advanced public speaking, and managerial writing. Each of these types of communication will be covered in light of how to: inform, persuade, praise, recommend, manage, lead, create change, and embrace diversity. (Special Fee: $30.00)

Elective Courses Transferable Skills (3 hrs)

Course Number	Title	Credit Hours
(new) ACCT 6xxx	**Project Management**	**1.5 hrs**

This course provides students with the skills necessary to manage a project from inception to completion, employing various techniques of working, planning, control, and evaluation for project success.

ACCT 6001 Managerial Accounting 1.5 hrs

Focuses on the way management determines the information they need for effective decision-making and how those needs are met. Includes consideration of a variety of management planning, control, and decision-making tools. Considers the communication and behavioral aspects of their use. Prereq.: ACCTG 6000 or equivalent.

MGT 6051 Managing and Leading in Organizations 3 hrs

This course provides students the tools necessary for solving organizational problems by reviewing basic concepts in the following areas: individual motivation and behavior, decision making, small group behavior, leadership, political dynamics, corporate culture, conflict and cooperation, managing human resources, and problem solving. The course incorporates theory and research and provides various frameworks that students can use to diagnose and deal with problems and challenges in organizations.

MGT 6310 Business Law 1.5-3 hrs

Basic principles of business law for graduate students.

MGT 6420 Quality Management 1.5 hrs

Designing and organizing a system for controlling the quality of products and services in an organization. Topics include quality and quality systems, statistical process control, methods for quality improvement, acceptance sampling, design quality methods and behavioral perspectives in managing for quality. Prereq.: MGT 6050

MGT 6500 Managerial Negotiation 1.5-3 hrs

Explores processes and techniques of bargaining and negotiating in organizational settings. Students develop negotiation skills through extensive case analyses and simulation exercises. Includes bargaining situations between individuals, bosses and subordinates, departments and groups and large collectives such as labor and management.

MGT 6530 Competitive Advantage Through People 1.5-3 hrs

This course focuses on organizing and managing people to achieve sustainable competitive advantage. The people-centered management strategies used by high performance firms will be examined, emphasizing both research and leading-edge practice. The following topics are explored: attracting, developing, motivating and retaining talent to support strategic objectives; designing high performance organizations; knowledge management; recruitment and selection processes; building a flexible and capable workforce; designing reward systems; managing work/life balance; measuring and communicating performance; understanding the legal environment; and leading an organizational transformation.

MGT 6540 Ethics of Management 1.5-3 hrs
The purpose of this course is to help students understand the ethical problems that confront managers and to approach their role as managers with a sense of purpose and vision. The course explores students' own ethical orientations, the values of practicing managers, and alternative approaches to ethical problems. Representative topics include making choices about influencing and obeying the law, profits versus other values, the relationship between the interests of individuals and groups, how corporate policies affect the ethical choices of individuals, and criteria for making ethical judgments.

MGMT 6710 Strategy & Technology 1.5 hrs
An introduction to the management of technology as a business activity. The focus is on the processes by which technological enterprises evolve, and on the technological innovation process in established technology-based firms. Special emphasis is placed on intellectual property issues and the management of knowledge. Heavy emphasis is placed on classroom analysis of published case studies of technological enterprises, together with readings which outline basic concepts applicable to the subject.

MGMT 6810 Entrepreneurship and Emerging Business 1.5 hrs
This course introduces the concept of the entrepreneur and of the role of the entrepreneur and innovator in the modern economy. It introduces the processes involved in identifying and defining opportunities in emerging industries and of developing and refining the business concept. At the end of this course, the student should understand the potential of Entrepreneurship as a career option and should have completed the preliminary analysis for an entrepreneurial business idea. The course will involve extensive exposure to entrepreneurs and entrepreneurial ventures and will require a formal business concept paper. Students are encouraged to develop new venture teams with both classmates and outside business partners.

MKTG 6090 Marketing Management 3 hrs
Focuses on developing analytical skills to make basic marketing decisions: target market, positioning, and marketing mix. Instructional approaches include case analyses, lectures, and a competitive situation. Oral and written communication are stressed.

FINAN 6020 Financial Management 3 hrs
Topics include financial analysis, planning, working capital management, financial math, valuation and capital budgeting. Prereq.: ACCTG 6001 or equivalent

FINAN 6025 Managerial Economics 1.5 hrs
Addresses fundamental principles of economics from the managerial perspective. Topics include supply and demand in markets, analysis of production and cost, consumer theory, analysis of market structure, the banking system and others. Prereq.: Math 1100 or equivalent.

Core Courses Adv. Quantitative Skills (9 hrs)

Course Number	Title	Credit Hours
MATH 5080	**Statistical Inference**	**3 hrs**

(Advanced Quantitative Skills - Data Analysis)

Sampling, sampling distributions, Central Limit Theorem, transformation of data, complete and sufficient statistics, point estimation, optimality. Interval estimation, hypothesis testing, likelihood method, errors, optimality, order statistics, nonparametric methods, rank statistics.

(new) MATH 6xxx Lab for Statistical Inference 1 hr

(Advanced Quantitative Skills - Data Analysis)

Applied data analysis. Introduces students to one or more statistical software packages (S+, SPSS, SASS). Students will analyze different data sets and write up reports explaining the findings and the meaning of the findings.

MATH 5740 Mathematical Modeling 3 hrs

(Advanced Quantitative Skills -Productive Computing)

Development of mathematical models for physical, biological, engineering, and industrial phenomena and problems, using mainly ordinary and partial differential equations. Involvement of analytical and numerical tools suitable for analysis and visualization of the solutions of these problems, including packages such as LINPACK, EISPACK, Maple and Matlab.

(new) PHYCS 6xxxx Reasoning/Problem Solving 2 hrs

(Advanced Quantitative Skills - Reasoning)

Case studies in problem-solving drawn from such fields as political science, sociology, history, psychology, anthropology, linguistics, geography, medicine, engineering, mathematics, and the sciences are presented. Attacks on such diverse issues utilize a common set of problem-solving heuristics (tips, cues, suggestions, strategies) made explicit during the search for solutions. Also presented are a number of problem-solving tools, each of which is used extensively in many of the disciplines - tools such as probability theory, decision-making, game theory, model-making, graph theory, and the logic found in the use of ordinary language. Applied data analysis.

Core Courses Internship (3 hrs)

Course Number	Title	Credit Hours
(new) MATH 6xxxx	**Internship in Mathematics**	**3 hrs**

Similar to MATH 4910. Computational science-related work in industry, business, or government.

(new) PHYSC/CHEM 6xxxx Internship in Science Instrumentation 3 hrs

Student internships and work experience in jobs related to science instrumentation.

GEO 5900 Internship 3 hrs

Student internships and work experience in geoscience related jobs. This cooperative education program is available to Geology and Geophysics majors.

Core Track Specific Courses for **Computational Science** (15 hrs)

Course Number	Title	Credit Hours

MATH 5610 Introduction to Numerical Analysis I 4 hrs

Prerequisite: MATH 2210, either MATH 2250 or 2270 and computing experience. Numerical linear algebra, interpolation, integration, differentiation, approximation (including discrete and continuous least squares, Fourier analysis, and wavelets). **OR**

CS 5210/6210 Introduction to Scientific Computing 3 hrs

Prereq.: CS 3200, CS3510, MATH 3150. This course provides an introduction to existing classical and modern numerical methods and a knowledge of their algorithmic development and efficient implementation. Topics include: numerical linear algebra, approximation methods and parallel computation methods for nonlinear equations, ordinary differential equations, and partial differential equations. Students will learn about existing algorithms, and develop and implement new algorithms for parallel and distributed environments.

MATH 5620 Introduction to Numerical Analysis II 4 hrs

Prerequisite: MATH 5610. Numerical solution of initial and boundary value problems of ordinary and partial differential equations. **OR**

CS 6220 Advanced Scientific Computing 3 hrs

Prereq.: CS 5210/6210 or MATH 5610. A study of the numerical solution of two and three dimensional partial differential equations that arise in science and engineering problems. Topics include: finite difference methods, finite element methods, boundary element methods, multigrid methods, sinc methods, domain decomposition, mesh generation, storage optimization methods, and adaptive methods.

CS 5630 Scientific Visualization 3 hrs

Prerequisite: CS 3510 and either CS 3200 or 5210 or MATH 5600. (Our students will have both MATH 5610 & 5620 instead of 5600…)
Meets with CS 6630. Introduction to the techniques and tools needed for the visual display of data. Students will explore many aspects of visualization, using a 'from concepts to results' format. The course begins with an overview of the important issues involved in visualization, continues through an overview of graphics tools relating to visualization, and ends with instruction in the utilization and customization of a variety of scientific visualization software packages.

MATH 6790 Case Studies in CES 3 hrs

Prerequisite: MATH 5740. Two to five faculty members from various disciplines will describe in detail a project in which they are engaged that involves all ingredients of computational engineering and science: a scientific or engineering problem, a mathematical problem leading to mathematical questions, and the solution and interpretation of these questions obtained by the use of modern computing techniques. Participating faculty will vary from year to year.

(modify) MATH 6795 Seminar in Computational Eng and Science 1 hr

Prerequisite: MATH 6790. Students in the final semester of the Computational Engineering and Science Program will present their own CES-related research. **Note: Modify this course so students write up their final projects and publish them on the web.**

Core Track Specific Courses for **Science Instrumentation** (9 hrs)

Course Number Title Credit Hours

PHYCS 6610 Electronics I 4 hrs

Basic components and introductory integrated circuit electronics. Noise and noise reduction. Transmission lines. Use of PCs in data collection and analysis, and in process control; interfacing to real-world equipment; sophisticated 32-bit processors used; hardware and software treated.

(modify) PHYCS 6620 Electronics II 2 hrs

Use of PCs in data collection and analysis, and in process control; interfacing to real-world equipment; sophisticated 32-bit processors used; hardware and software treated.

(modify) PHYCS 6760 Physical Measurements and Sensor Systems 3 hrs

Physical principles and practical use of modern sensors and measurement systems. Quantitative characterization of measurement systems, noise reduction, statistical analysis of measurement data. Physical basis for various types of measurement sensors including: mechanical (position, velocity, acceleration, force, pressure, strain), thermal (temperature, thermal expansion, thermoelectric, thermoresistive), electric (capacitive, piezoelectric) and magnetic (Hall, NMR, superconductive). Laboratory provides hands on experience with these sensors and measurement systems.

Elective Track Specific Courses for **Science Instrumentation** (6 hrs)

Course Number	Title	Credit Hours

CHEM 6750 Information Processing 2 hrs

Experimental design, error analysis.

CHEM 6700 Analytical and Chemical Measurements I 2 hrs

Graduate lecture course that covers fundamentals of a dozen or so areas of chemical measurements. Uses spreadsheets, Matlab and Maple for homework or lab analyses. Has significant writing and communication skills content. (Three lectures, one discussion per week for 7.5 weeks.)

CHEM 6710 Analytical and Chemical Measurements II 2 hrs

Graduate lecture course that covers fundamentals of a dozen or so areas of chemical measurements. Uses spreadsheets, Matlab and Maple for homework or lab analyses. Has significant writing and communication skills content. (Three lectures, one discussion per week for 7.5 weeks.

CHEM 6720 Separations 2 hrs

Three lectures, one discussion per week for 7.5 weeks.

CHEM 6730 Electrochemistry 2 hrs

Three lectures, one discussion per week for 7.5 weeks.

CHEM 6770 Optical Spectroscopy 2 hrs

Three lectures, one discussion per week for 7.5 weeks.

PHYCS 6770 Optical Instrumentation and Sensors 2 hrs

Recommended Prerequisite: PHYCS 3740 and 5750 and 5751

Physical principles and practical use of optical instrumentation and sensors. Photodetectors, lasers, fiber sensors, interferometry, acousto-optic/electro-optic modulation, optical pyrometry, optical microscopy. Fundamental sensing limits, optical noise sources, spatial/temporal coherence. Laboratory provides hands on experience with these sensors and measurement systems.

Core Track Specific Courses for **Environmental Science** (9 hrs)

Course Number	Title	Credit Hours

GEO 6340 System Dynamics and Environmental Policy 3 hrs

Environmental policy design requires an understanding of human interactions with environmental systems. It requires an accounting of the complexities of behavior, context and policy. These complexities often produce indirect and unanticipated consequences. They yield unexpected patterns and counter-intuitive results. Students from many academic fields learn user-friendly software (STELLA) to do environmental policy simulation without proficiency in advanced mathematics. Students use computer simulations to sort out environmental complexities; transform group perceptions into simulation models; apply principles of environmental management; test policy effects and define possible pathways for future policy change.

GEO 6341 Practicum in Environmental Systems Sustainability 3 hrs

Using actual clients and a systems thinking approach, multi-disciplinary student teams resolve real world problems in environmental sustainability. Student teams define system structures, feedback loops, counter-intuitive relationships and the unintended consequences of policy decisions. Students having completed 'System Dynamics and Environmental Policy' get to apply their experience in systems modeling in support of team efforts in full-scale, practical problem solving. Possible topics include: urban growth, drinking water, energy resources, air/water quality and environmental justice.

(new) GEO 6400 Mathematical Modeling in Environmental Systems 3 hrs

Computer and field methods for solving applied geoscience, hydrology, and biology problems. Develops the computer and field skills required to solve problems in landscape evolution, geologic hazards, land use and natural resources. Various techniques of mathematical modeling of a range of biological systems, including ecology, physiology, cell biology, and genetics.

Elective Track Specific Courses for **Environmental Science** (6 hrs)

Course Number Title Credit Hours

GEO 5470 Stable Isotope Ecology 3 hrs

Cross listed as BIOL 5470. Prerequisite: Instructor's consent. A lecture course describing the principles of stable isotope chemistry as applied to biological environments and of the contributions of stable isotope approaches to addressing ecological phenomena from cellular through global levels.

GEO 6370 Environmental Organic Geochemistry 3 hrs

Prerequisite: Graduate standing required. Molecular basis for the physical and chemical behavior of organic chemicals in air, water, soil, as well as within our own bodies. Relation of contaminant structure and chemistry to distribution within the environment. Contaminant transport, origins of contaminants at contaminated sites, and remedial technologies for cleanup.

GEO 6660 Geochemistry 3 hrs

Geochemistry of the Earth and Earth processes, low temperature geochemistry, applications of thermodynamics to geologic problems.

CHEM 5700 Advanced Analytical Chemistry Laboratory 2 hrs

Prerequisite: CHEM 3000. Two lectures, two laboratories a week for 7.5 weeks. Introduction to advanced laboratory work in chemistry. Modern instrumental techniques including electrochemical, spectroscopic, and chromatographic analysis.

CHEM 5710 Advanced Organic Chemistry Laboratory 2 hrs

Prerequisite: CHEM 2320 or 2321. Two lectures, two laboratories a week for 7.5 weeks. Laboratory emphasizing the use of modern instrumental techniques for the identification and characterization of organic compounds.

CHEM 6700 Analytical and Chemical Measurements I 2 hrs

Three lectures, one discussion per week for 7.5 weeks.

CHEM 6710 Analytical and Chemical Measurements II 2 hrs

Three lectures, one discussion per week for 7.5 weeks. Continuation of CHEM 6700.

GEOGR 6110 Environmental Analysis Through Remote Sensing 3 hrs

Prerequisite: GEOGR 3110. Geography graduate students should take GEOGR 6110 and will be held to higher standards and/or more work. High-resolution multispectral data, coupled with expanding computing power and increasingly sophisticated image processing software, provides a large set of quantitative, graphic and science visualization tools for solving science-based environmental problems using remote sensing data. The theory and application of image-processing techniques such as: data corrections, enhancements, transformations, and classification are aimed at specific environmental problems in the natural and human domains. Hands-on experience is gained through image processing laboratory techniques, field-based measurements and

real-world science projects.

GEOGR 6140 Methods in Geographic Information Systems 4 hrs

Prerequisite: GEOGR 3140. Geography graduate students should take GEOGR 6140 and will be held to higher standards and/or more work. This course explores the practice of using a geographic information system (GIS) to support geographic inquiry and decision making. Students will strengthen their technical knowledge of the common tasks that a geographic analyst faces in applying a GIS to a variety of spatial problems. The lab sections offer an opportunity to gain hands-on experience using a leading commercial GIS to complete a series of real-world projects.

BIOL 5425 Advanced Ecology 3 hrs

Recommended Prerequisite: BIOL 2010 and 2020 and 2030. Moderately advanced treatment of central topics in modern ecology. Population growth and regulation; competition, predation, and mutualism; dynamics, stability, and diversity of communities; introduction to biogeography and systems ecology.

BIOL 5455 Desert Ecology Field Course 5 hrs

Recommended Prerequisite: BIOL 2010 and 3410. A project-oriented field class in the southwestern U.S. deserts. Frequent written and oral reports, and independent projects. Covers hypothesis-testing, experimental design and statistics. Three weeks intensive field class.

BIOL 5460 Plant Ecology 3 hrs

Recommended Prerequisite: BIOL 2010. Adaptive physiology and structure/function relationships between plants and their environments. Microclimate, energy balance, life-history, competition, and carbon, water, and nutrient relations of plants in different ecosystems. Focus also on the diversity of global plant communities.

BIOL 5465 Plant Ecology Laboratory 2 hrs

Recommended Prerequisite: BIOL 2010. A laboratory course with an emphasis on methodologies involved in plant ecology, including vegetation cover, micro-climate, photosynthesis, water relations, and stable isotopes. Course involves individual and group laboratory and computer projects each week. Course includes weekend field trips (desert and forest ecosystems).

Appendix B

Faculty

People are a key element for the success of proposing, planning, launching, and sustaining this new program. The following thirteen faculty/staff were involved in this proposal:

Co-PI's:

David Chapman	Dean, Graduate School; Professor, Department of Geology and Geophysics
Rebecca Raybould	Program Director

Faculty/Staff:

Frank Brown	Dean, College of Mines and Earth Sciences; Professor, Department of Geology and Geophysics
Jim Carlson	Chair and Professor, Department of Mathematics
Thure Cerling	Professor, Department of Geology and Geophysics
David Eyre	Research Assistant Professor, Department of Mathematics
Aaron Fogelson	Professor, Department of Mathematics
Diana Hirschi	Director, MBA Programs, School of Business
Jim Keener	Professor, Department of Mathematics
Debra Scammon	Associate Dean, School of Business; Professor, Department of Marketing
Peter Trombi	Professor, Department of Mathematics
Henry White	Professor, Department of Chemistry
Clayton Williams	Professor, Department of Physics

Co-Principal Investigator David Chapman, Dean of the Graduate School, is responsible for obtaining institutional approval for the new program; providing executive level support; promoting the new program at meetings with other universities; and, sharing wisdom regarding change in higher education. As Program Director and Co-P.I., Rebecca Raybould, is responsible for coordinating faculty contacts with business affiliates; cultivating internship opportunities; designing and developing web pages to announce the program; assisting with the development of Transferable Skills courses; and, formative evaluations throughout the program development. Faculty and staff are responsible for interacting with business affiliates for the purpose of developing case studies and other curricula; helping students understand the connections between course work and the job environment; and, promoting the new program.

Appendix C

Faculty

General oversight of the Master of Dietetics Administration program will be provided by a four member Advisory Committee within the NFS Department, and administered by the NFS Dietetics Program Director. This committee will be comprised of NFS faculty involved in the Master of Dietetics Administration program coursework and those who are interested in becoming involved. The Advisory Committee will provide direction on program policy and curricula, and will also be responsible for accepting students into the program.

Many NFS faculty have agreed to mentor students and serve on student advisory committees. The Advisory Committee will use this information to assign an advisor for each incoming student. The advisor will then consult with the student to select two additional graduate committee members, including at least one PhD faculty member with appropriate background for the students research project.

DIRECTOR of PROGRAM:

Noreen Schvaneveldt, MS, RD
Contribution to Program:
Director of Dietetics Program

ADVISORY/SELECTION COMMITTEE:

Von T. Mendenhall, PhD, Department Head
Contribution to Program:
Culinary Arts, Food Science, Food Service Management and Food Safety

Janet Anderson, MS, RD
Contribution to Program:
Food Service Management, Food Safety

Ann Mildenhall, MS, RD
Contribution to Program:
Director of Distance Dietetic Internship

Tamara Vitale, MS, RD
Contribution to Program:
Community Nutrition Management/Public Health Nutrition Programming, Culinary Arts

Faculty for the program will include the program director, members of the advisory committee and members of the NFS Department who are involved in Master of Dietetics Administration program coursework, research or Extension. These faculty have also agreed to

chair and/or serve on up to three student advisory committees per year. These additional individuals include:

Charlotte Brennand, PhD
Contribution to Program:
Extension specialist in food safety/Sensory Chemist

Nedra Christensen, PhD, RD
Contribution to Program:
Clinical Nutrition Management

Deborah Gustafson, PhD
Contribution to Program
Normal Nutrition, Nutrition Studies in Adolescents

Conly Hansen, PhD
Contribution to Program
Environment/Waste Management in Foodservices

Deloy Hendricks, PhD
Contribution to Program:
Normal Nutrition

Georgia Lauritzen, PhD, RD
Contribution to Program:
Community Nutrition/Extension

Ronald Munger, PhD
Contribution to Program:
Nutritional Epidemiology and Public Health

Kristine Saunders, MS
Contribution to Program:
Community Nutrition Management
Expanded Food and Nutrition Education Program (EFNEP)
Food Stamp Nutrition Program

Marie Walsh, PhD
Contribution to Program:
Food Science/Product Development/Branding

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: University of Utah – Stand-alone Minor in Latin American Studies – Action Item

Issue

Officials at the University of Utah (U of U) request approval to offer a stand-alone Minor in Latin American Studies effective Fall Semester, 2002.

Background

The proposed Minor in Latin American Studies is consistent with the University of Utah's strong efforts to internationalize its curriculum in response to the need to prepare students for an increasingly global world. These efforts include major initiatives through the International Studies Board and such recently created programs as Asian Studies. The inclusion of Latin America, arguably one of the most important regions to the United States, in these efforts is a logical next step.

The proposed Minor offers students a coherent program of area studies that will enrich their academic experience by allowing them to pursue related courses of study while fulfilling minor, major, and University requirements. The Minor offers students the opportunity to deepen their understanding of this important region and will strengthen the ability of students to interact with Latinos both at home and abroad, whether as citizens, in private enterprise or government work. Students who complete the Minor will better make the kind of cross-cultural comparisons that foster a better understanding of the issues that face our society.

The University of Utah already offers all of the courses that will comprise the proposed Minor in Latin American Studies. Many students are taking these courses, and officials at the U of U anticipate that these students will now, with proper advisement, take advantage of the opportunity to incorporate these courses into the Minor. Existing resources including faculty, staff, library, facilities and equipment are adequate to handle the proposed program. No additional state or institutional funds are requested.

Policy Issues

No concerns were expressed by or comments received from other USHE institutions.

Options Considered

After the Regents have reviewed the proposal from the University of Utah to offer a stand-alone Minor in Latin American Studies, they may raise issues, request additional information, deny the request or approve the request.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents approve the proposal from the University of Utah to offer a stand-alone Minor in Latin American Studies, beginning Fall Semester, 2002.

Cecelia H. Foxley, Commissioner

CHF/LF
Attachment

Academic and Applied Technology Education Committee

Action Item

Request to Offer a Stand-alone Minor in Latin American Studies

University of Utah

Prepared for
Cecelia H. Foxley
by
Linda Fife

March 6, 2002

SECTION I

The Request

Officials at the University of Utah request approval to offer a stand-alone Minor in Latin American Studies effective Fall Semester, 2002. This program was approved by the institutional Board of Trustees on January 28, 2002.

SECTION II

Program Description

Complete Program Description – The proposed Latin American Studies Minor will provide students the opportunity to explore interdisciplinary approaches to Latin America, a major world region that includes South and Central America, Mexico and the Caribbean. The Minor in Latin American Studies will be granted to the student who: 1) meets the University requirements for graduation with a bachelor's degree, and 2) fulfills at least eighteen (18) semester hours selected from the list of approved courses. Consultation with the adviser for the Latin American Studies Minor is required.

The curriculum for the proposed program, including course descriptions, is included in Appendix A. A sample class schedule can be found in Appendix B.

Purpose of Degree – The proposed Minor will offer students a formal interdisciplinary program in Latin American Studies**.** This program offers students a coherent cluster of courses that integrate area and interdisciplinary studies. In completing the requirements of the Minor, students may also be working toward fulfilling University requirements such as "Intellectual Explorations" and "Diversity" in a way that is academically and thematically coherent. In addition to its academic purpose, the Minor acknowledges increased student demand for a formalized course of studies of Latin America and the growing importance of Latin American to our nation, to the intermountain region, and to our state.

Admission Requirements – There are no prerequisites for the Minor, although some courses that might be selected for the Minor do have lower-division prerequisites. Consultation with the adviser for the Minor is required.

Student Advisement – An adviser for the Minor will be appointed from among core Latin American Studies faculty. Since the number of advisees will not be large, the faculty adviser will be able to perform student advising as a normal part of his/her service responsibilities. This administrative pattern reflects the current structure of other University of Utah Minors that are not part of existing programs.

Projected Enrollment – Projected enrollment for the first five years of the program is shown below.

Year 1	Year 2	Year 3	Year 4	Year 5
10	20	30	40	50

Approximately 10 new minors are anticipated in each of the first five years of the program. Officials at the U of U base this projection upon the following enrollment in similar minors at the U of U in 2001: Asian Studies: 1; Chicano Studies 3; Spanish 60.

Courses for the proposed Minor already exist. It is expected that many students taking these courses will now, with appropriate advisement, take advantage of the opportunity to structure these courses into the proposed Minor. Thus, a pool of students who are expected to enroll in the Minor already exists at the U of U.

Faculty – A list of current faculty who will support the proposed program is included in Appendix C. No additional faculty are required.

Staff – No additional staff are required to support the proposed degree.

Library and Learning Resources – Existing library and other learning resources are adequate to support the proposed program.

SECTION III

Need

Program Necessity – The University of Utah has made strong efforts to internationalize its curriculum in response to the need to prepare students for an increasingly global world. These efforts include major initiatives through the International Studies Board and such recently created programs as Asian Studies. The inclusion of Latin America, arguably one of the most important regions to the United States, in these efforts is long overdue. A Minor in Latin American Studies will constitute an integral part of the University's goal to internationalize the curriculum. The Minor offers students a coherent program of area studies that will enrich their academic experience by allowing them to pursue related courses of study while fulfilling minor, major, and University requirements. The Minor offers students the opportunity to deepen their understanding of this important region and will strengthen the ability of students to interact with Latinos both at home and abroad, whether as citizens, in private enterprise or government work. Students who complete the Minor will better make the kind of cross-cultural comparisons that foster a better understanding of the issues that face society.

Labor Market Demand – A Minor in Latin American Studies will prove attractive to employers who function in an increasingly global economy. The importance of Latin America to the United States economy, especially the US Southwest, has increased substantially in recent years. Students who can demonstrate knowledge and understanding of Latin America will be

more competitive in the local and national the job markets. One example (among many) of local demand for Latin American expertise is a joint initiative by local banks and the David Eccles School of Business to prepare more mid-management workers for Spanish-speaking positions in the banking industry. Any student with a Latin American Studies Minor would be ideally positioned to fill this need.

Student Demand – In recent years student demand for a formal program in Latin American Studies has increased. Recent enrollment figures indicate strong demand for Latin American-related courses. During Spring, 2001 forty professors in twenty-four departments offered thirty-three non-language courses related to Latin America, ranging from Pre-Columbian Architecture to Ecology and Conservation; together they enrolled 678 undergraduates. In Spanish classes alone, enrollments total more than 800 annually (more than sixty-three classes operate at capacity); of those students, approximately 150 are declared Spanish majors. In addition, faculty receive specific inquiries from students about the possibility of pursuing a program in Latin American Studies.

Significant potential student demand also exists for a formal program in Latin American Studies. As demonstrated by the 2000 Census, Utah's Latino population, parallel to national trends, is growing rapidly—a staggering 138 percent since 1990. Latinos now constitute nine percent of the state's population and 18.8 percent of the population of Salt Lake City, numbering more than all the other minority groups in the state combined. Although the 2000 Census has not released data on nation of origin, Utah's Latinos are increasingly diverse. Historically, most Utah Latinos traced their roots to Mexico. Today, Salt Lake City boasts rapidly growing communities of Salvadorans, Peruvians, Colombians, and Brazilians. In 1999, 3.9 percent of the University's entering students were Hispanic in origin. This new reality highlights the timeliness of a Minor in Latin American Studies. The Minor supports the urgency of university engagement with the local community and addresses the educational needs of Utah's rapidly growing and increasingly diversified Latino diaspora community.

In addition to Latinos, the University of Utah has another natural undergraduate constituency for a Latin American Studies Minor—students who have served as missionaries for the Church of Jesus Christ of Latter Day Saints (LDS). These "returned missionaries" typically self-select for courses that concern regions of the world where they earlier served missions. Approximately 1000 undergraduates currently enrolled at the University (Spring, 2000) served Spanish-speaking missions. An additional 300-400 served Portuguese-speaking missions; thus, a significant portion of the students enrolled in any Latin American course has lived and worked two years in a Latin American country and has advanced languages skills in either Spanish or Portuguese. Existing courses offer these students the broader historical and cultural context in which to understand their own personal experiences in Latin America. The Latin American Studies Minor would offer these students a coherent and organized course of study that joins their personal and academic interests.

Similar Programs – In the state of Utah, two institutions of higher education offer a Minor in Latin American Studies: Brigham Young University and Weber State University. Utah's historic and contemporary ties to Latin America, including its rapidly growing Latino population, reflect the need for multiple programs in Latin American Studies in the state. Five of

the ten peer institutions for the University of Utah, the majority of which are not in the Southwest United States, also offer a Minor in Latin American Studies.

SECTION IV

Program and Student Assessment

Program Assessment – The Latin American Studies Minor will add significant and specific expertise to graduates of the U of U. The Minor will ensure that students have functional Spanish language skills. The Minor will also give students depth and breadth in Latin American Studies: depth from the linked courses that will build on and deepen the required Latin American Civilization course; breadth from the requirement to take courses in at least three departments. These requirements will add significant regional and disciplinary expertise even to the degrees of students who already specialize in Spanish language or history of Latin America.

Achievement of the above goals will be measured in several ways. First, the viability of the student's program will be measured in the required meeting with a program advisor. Second, the student's third-year language ability will be measured by a new language assessment test being developed for assessment of the university-wide foreign language requirement. Finally, breadth and depth requirements will be measured by success in upper division courses in the various departments. A broader program assessment will take place in the fifth year when directors, faculty, and the International Studies Board will conduct a self-study including numbers of minors, average grade point in program, record of successful acceptance to graduate programs in the field, and record of job placement.

Expected Standards of Performance – Students will be expected to speak functional Spanish (roughly the equivalent of three years of college Spanish); will have mastered a broad vision of Latin America – success in one of the introductory core courses will be the measure of this broad competence; and will have achieved a depth of knowledge about a particular disciplinary approach to Latin America – success in the upper division courses in several different departments will be the measure of this disciplinary competence.

Student Assessment – The structure of the Latin American Studies Minor and the commitment of the Latin American Studies faculty provide a strong base for formative assessment. The initial program has been structured to provide an enriched learning experience for students in the Minor, and should lend itself to an exceptional learning experience for the students. In addition, the performance of each student attempting the Minor will be monitored in each of the courses, particularly through exams and writing efforts, allowing an assessment of the educational success of the program as structured. The course evaluation instrument will be utilized and specific questions adopted to obtain the students' own evaluation of the learning process and results. The summative assessment will use this information, along with the full record of the students' academic performance and achievements, such as academic essay awards, scholarships, acceptance into graduate programs, and job placement to assess whether the learning is reaching its goal. The ability of students to continue their involvement in Latin

America or in Hispanic communities in the United States will be the final measure of their competency in Latin American Studies.

Continued Quality Improvement – The faculty in Latin American Studies will meet with the academic advisors/faculty and, to the extent possible, students, at the end of each Spring Semester to assess the programmatic success in that year. Adjustments to the program will be undertaken at that point to ensure that the program lives up to its possibilities. In addition, at the end of the first five years, an overall program assessment will be carried out in conjunction with the College of Humanities and the International Studies Board.

SECTION V
Finance

Budget – No additional funds are required for this Minor. Faculty interest is high and a pool of potential students is already taking the classes that will comprise the proposed Minor. Advisement will be spread across colleges absorbed in regular faculty service loads. No new classes will be created.

Appendix A

Program Curriculum and Course Descriptions

Courses selected for the Latin American Studies Minor must:

1) Originate in at least three departments.

2) Include one lower-division course:
   HIST 1300 Latin American Civilization to the 1820s (3)
   HIST 1310 Latin American Civilization since the 1820s (3)

3) Iinclude one upper-division language course (or its equivalent) selected from:
   PTGSE 3060 Third-Year Grammar
   SPAN 3020 Intermediate Conversation and Reading (3)
   SPAN 3040 Intermediate Grammar and Composition (3)
   SPAN 3060 Advanced Grammar and Composition (3)
   SPAN 3580 Contemporary Issues (3) (upon approval only)
   SPAN 3950 Service-Learning Spanish (1 to 3)
   SPAN 4630 Survey of Spanish American Literature (3)
   SPAN 4720 Hispanic Narrative (3) (upon approval only)
   SPAN 4730 Hispanic Drama (3) (upon approval only)
   SPAN 4750 Spanish American Novel (3)
   SPAN 4760 Hispanic Poetry (3)
   SPAN 4770 Hispanic Film and Culture (3)
   SPAN 4790 Masterpieces of Mexican Literature (3)
   SPAN 5240 Linguistic Structure of Spanish (3) (cross-listed as LING 5240)
   SPAN 5241 Topics in Spanish Language (3) (cross-listed as LING 5241)

List of Additional Courses Approved for the Latin American Studies Minor

ANTHR 3211 Biology of Native Americans (3)
ANTHR 3321 The Classic Maya (3)
ANTHR 3322 Mesoamerican Anthropology (3)
ARCH 6203 Pre-Columbian Architecture (1.5)
ECON 5460 Latin American Economic History and Development (3)
ENGL 3780 Global/Transnational Literature (3) (upon approval only)
ENGL 5860 Studies in Post-Colonial Literature (3) (upon approval only)
ETHNC 3700 Masterpieces of Mexican Literature (3)
GEOGR 3670 Geography of Latin America (3)
HIST 3300 History of Mexico (3)
HIST 4290 Colonies and Cultures (3)
HIST 4300 Topics in Latin American History (3)
HIST 4310 Gender and Power in Latin America (3)
HIST 4990 Senior Seminar (3) (upon approval only)
LING 5240 Linguistic Structure of Spanish (3) (cross-listed as SPAN 5240)

LING 5241	Topics in Spanish Language (3) (cross-listed as SPAN 5241)
POL S 3430	Politics of Revolution in Latin America (3)
POL S 3500	Democracy in Latin America (3)
POL S 5490	International Relations of Latin America (3)
POL S 5967	Topics in Comparative Politics (3) (upon approval only)
WMST 5050	Feminist Analysis of Race, Class, and Sexuality (3) (upon approval only)

One of the upper-division courses may be selected from the approved list of courses that concern diaspora Latinos in the United States:

ETHNC 2560	Chicana/o Experiences
ETHNC 3770	Chicana/o Literature (cross-listed as ENGL 3770)
ETHNC 3860	La Chicana
ETHNC 4200	Chicana/o Expression
ETHNC 4330	Chicana/o Culture via Film
ETHNC 4540	Chicana/o History Since 1849 (cross-listed as HIST 4540)
ETHNC 4560	Chicano Civil Rights Movement

Course Descriptions

No new courses are needed for this program. It will be implemented with existing faculty and courses.

ANTHR 3211 Biology of Native Americans **3 credits**
Origin, population history, child growth, health, anthropometry, demography, and genetics of North and South American Indians. Biological variation and adaptation of Native American groups in pre-contact era, biological effects of European contact, and subsequent biological responses to modernization.

ANTHR 3321 The Classic Maya **3 credits**
Explores the rise and fall of Classic Maya society through archaeology, hieroglyphic inscriptions, and ethnohistoric documents. Examines Maya economy, social organization, religion, warfare, and explanations as to why this society was so dramatically transformed after the 9th century AD.

ANTHR 3322 Mesoamerican Archaeology **3 credits**
Surveys the rise of complex societies in Mesoamerica, focusing on the Olmecs, the Maya, Teotihuacan and the Aztecs. Explores differences between societies in tropical rainforests environments and the arid highlands. Considers the impact of the Spanish conquests on the societies of Mesoamerica.

ARCH 6203 Pre-Columbian Architecture **(1.5)**
Survey of the arts, emphasizing architecture, of major North and South American Pre-Columbian civilizations.

ECON 5460 Latin American Economic History and Development **3 credits**
Historic and contemporary economic problems in Latin America from the conquest to the present dependency, independence, and integration into world economy. Emphasis on new forms of dependency in the macro economy and on contemporary domestic social problems.

ENGL 3770 Chicana/o Literature **3 credits**
(cross-listed as ETHNC 3770)
Chicana/o literature from its beginning in oral tradition (tales, ballads, folkdrama) to contemporary fiction, poetry, and drama. Reading knowledge of Spanish is helpful, but all texts written in English or translated.

ENGL 3780 Global/Transnational Literature **3 credits**
Introduction to 20th-century global multiculturalism via literature and film. Emphasis on post-colonialism and related topics.

ENGL 5860 Studies in Post-Colonial Literature **3 credits**
Selected topics dealing with the distinctive modes of expression and dominant themes in post-colonial cultures.

ETHNC 2560 Chicana/o Experiences **3 credits**
Develops understanding of historic, social. Cultural, economic, and political factors involved in the US Chicana/o experience.

ETHNC 3700 Masterpieces of Mexican Literature **3 credits**
Introduction to major works of Mexican literature: fiction, narrative, and poetry. Works read in translation or in Spanish.

ETHNC 3770 Chicana/o Literature **3 credits**
(cross-listed as ENGL 3770)
Chicana/o literature from its beginning in oral tradition (tales, ballads, folkdrama) to contemporary fiction, poetry, and drama. Reading knowledge of Spanish is helpful, but all texts written in English or translated.

ETHNC 3860 La Chicana **3 credits**
Historical, social, and cultural development of La Chicana in the Southwest. Background and traditional roles of La Chicana up to the present.

ETHNC 4200 Chicana/o Expression **3 credits**
Chicano cultural and artistic development in the 1960s and 1970s. Readings of significant works in Chicano literature and their impact on Chicanos, emphasizing ideas about culture, conflict, history, and political and philosophical development of Chicano Pueblo—local, regional, and national.

ETHNC 4330 Chicana/o Culture via Film **3 credits**
Examines the meditated forces that shape and influence Chicana/o Latina/o culture and identity. Includes analysis and assessment of media texts, such as documentary film, television, and newspaper, that emerge from and/or portray Chicana/os and Latina/os.

ETHNC 4540 Chicana/o History Since 1849 **3 credits**
(cross-listed as HIST 4540)
Examines the historical experiences in the United States of people of Mexican background from the late 19th century to present day.

ETHNC 4560 Chicano Civil Rights Movement **3 credits**
Situates the Chicano Civil Rights Movement (CCRM) of the 1960s and 1970s within a historical and sociological perspective. Explores the injustices perpetuated since the Spanish colonization, dismantle of Aztec culture, expansion of European capitalism, and the expropriation of the Mexican territory of the United States in 1848.

GEOGR 3670 Geography of Latin America **3 credits**
An exploration of modern Latin America's development, problems, and issues in a physical, human, historic, economic, and political context. The place of Latin America in today's global economic and geopolitical system is also examined; that is to say, Latin America's relationships with North America and Europe as well as its association with the World Bank, the International Monetary Fund, and other economic organizations.

HIST 1300 Latin American Civilization to the 1820s **3 credits**
Introduces students to central themes in Latin American civilization from the time of the Columbian voyages to the movements for independence in the 1820s.

HIST 1310 Latin American Civilization Since the 1820s **3 credits**
Introduces students to the central themes in Latin American civilization from the movements for independence in the 1820s to the present.

HIST 3300 History of Mexico **3 credits**
Examines Mexican history from pre-conquest societies through the present, paying special attention to the following topics: colonial legacies, economic development, the Mexican Revolution (1910), U.S.-Mexican relations, the construction of racial and ethnic identities, and cultural traditions.

HIST 4290 Colonies and Cultures **3 credits**
Examines patterns of cross-cultural influence among Native Americans, Europeans, and Africans in a variety of colonial settings throughout the early Americas.

HIST 4300 Topics in Latin American History **3 credits**
Concerns a specific topic in Latin American History. Content will vary with each semester.

HIST 4310 Gender and Power in Latin America **3 credits**
Explores the question of the interplay between gender, power, and the creation of identities in Latin America. Examines how gender relations are socially constructed, maintained, and challenged. Examines the economic and cultural phenomena which define women's roles in the region. Also considers the relationship between the status of women and their means of fighting for social justice, including instigating change in the status of women.

HIST 4540 Chicana/o History Since 1849 **3 credits**
Examines the historical experiences in the United States of people of Mexican background from the late 19th century to present day.

HIST 4990 Senior Seminar **3 credits**
Required for history majors and teaching majors and minors. Topics will vary according to instructor.

LING 5240 Linguistic Structure of Spanish **3 credits**
(cross-listed as SPAN 5240)
A course in the linguistic description of Standard American and Iberian varieties. A linguistic approach is contrasted with traditional grammar.

LING 5241 Topics in Spanish Linguistics **3 credits**
(cross-listed with SPAN 5241)
Course may be repeated when topic varies. Information on current topics available in Linguistics Department.

POL S 3430 Politics of Revolution in Latin America **3 credits**
Case studies of political revolution in Latin America, up through contemporary events. Examples include Mexico, Castro Cuba, Allende Chile, Sandinista Nicaragua.

POL S 3500 Democracy in Latin America **3 credits**
An examination of the new cases of democracy in Latin America in terms of their causes and consequences.

POL S 5490 International Relations of Latin America **3 credits**
Relationship between traditional forms of contact between United States and Latin America. Recent forms of nationalism in Latin America, their effects on resulting economic development, and economic integration.

POL S 5967 Topics in Comparative Politics **3 credits**
Topics on cross-national political comparisons.

PTGSE 3060 Third-Year Grammar **3 credits**
Intensive work on reading and writing. First course for students who learned the language through residence in Portugal or Brazil.

SPAN 3020 Intermediate Conversation and Reading **3 credits**
Emphasis on oral production through discussion of topics drawn from texts and other media.

SPAN 3040 Intermediate Grammar and Composition **3 credits**
Critical and creative writing with emphasis on summaries, narratives, and descriptions of a factual natures, and supported opinion.

SPAN 3060 Advanced Grammar and Composition **3 credits**
Intensive work on writing in Spanish. Continued review of grammatical features and word usage. Open for students with a year and a half or more experience in a Spanish-speaking country or area.

SPAN 3580 Contemporary Issues **3 credits**
Introduction to the historical, political, economic, and cultural issues affecting one or more of the countries of Spain and/or Spanish America.

SPAN 3950 Service-Learning in Spanish **1-3 credits**
To be arranged between faculty member and student.

SPAN 4510 Business Spanish **3 credits**
A course devoted to learning basic terminology and vocabulary related to commerce with Spain and Latin America. Intensive practice in commercial letter writing.

SPAN 4560 Culture and Customs of Spanish America **3 credits**
Indigenous and Hispanic cultures and customs of Spanish America.

SPAN 4630 Survey of Spanish American Literature **3 credits**
Readings in literature from 15th century to present, covering varied genres from all of Latin America.

SPAN 4720 Hispanic Narrative **3 credits**
Major narrative works of Spanish and Spanish-American writers.

SPAN 4730 Hispanic Drama **3 credits**
Major dramatic works of Spanish and Spanish-American writers.

SPAN 4750 Spanish American Novel **3 credits**

SPAN 4760 Hispanic Poetry **3 credits**
Devoted to enhance the oral interpretation of poetry. Focus on rhythm, rhyme, and comprehension of meaning. Focus can vary from poetic themes to literary periods of generations of poets.

SPAN 4770 Hispanic Film and Culture **3 credits**
Combines films with literary texts and the study of movements, and criticism related to both.

SPAN 4790 Masterpieces of Mexican Literature **3 credits**
Major authors of the Mexican 20th-century literary canon. Taught in Spanish, although some texts are available in English translation.

SPAN 5240 Linguistic Structure of Spanish **3 credits**
(cross-listed as LING 5240)
A course in the linguistic description of Standard American and Iberian varieties. A linguistic approach is contrasted with traditional grammar.

SPAN 5241 Topics in Spanish Linguistics **3 credits**
(cross-listed with ling 5241)
Course may be repeated when topic varies. Information on current topics available in Linguistics Department.

Appendix B

Sample Student Schedule

History Major, Latin American Studies Minor

First Year
Fall Semester
HIST 1700 (AI)
ARCH 1615 (FF)
DANCE 1072 (FI)
ETHNC 2500 (DV)

Spring Semester
ANTHR 1201 (SF)
BIOL 2400 (SI)
WRTG 2010 (WR)
FCS 1500 (BF)
ANTHR 2312 (BI)

Second Year
Fall Semester
COMM 1270 (QB)
HIST 1010 (major)
HIST 1220 (major)
SPAN 1010

Spring Semester
SPAN 1020
HIST 2700 (major/AI)
HIST 1300 (minor)
HIST 1020 (major)
HIST 3000 (CW)

Third Year
Fall Semester
SPAN 2010
HIST 3300 (major/minor)
HIST 3390 (major)
Math 1050 (QA)

Spring Semester
SPAN 2020
HIST 4290 (major)
HIST 4660 (major)
HIST 3020 (major)

Fourth Year
Fall Semester
SPAN 3020 (minor)
SPAN 3060 (minor)
HIST 4510 (major)
HIST 3700 (major)

Spring Semester
POL S 3500 (minor)
ETHNC 3770 (minor)
HIST 4990 (major)

Appendix C

Faculty

Following is a list of full-time faculty and the proposed minor requirement courses they are prepared to teach:

DOLORES DELGADO-BERNAL, Assistant Professor of Communication. ETHNC 2560 Chicana/o Experiences; ETHNC 3860 La Chicana

EDWARD ELIAS, Associate Professor, Languages & Literature. ETHNC 2560 Chicana/o Experiences; ETHNC 3770 Chicana/o Literature

EDWARD EPSTEIN, Professor, Political Science. POL S 3430 Politics of Revolution in Latin America; POL S 3500 Democracy in Latin America; POL S 5490 International Relations of Latin America; POL S 5967 Topics in Comparative Politics

GEMA ROSA GUEVARA, Assistant Professor, Languages & Literature. SPAN 4630 Survey of Spanish American Literature

ARTHUR HAMPSON, Lecturer-Professor, Department of Geography. GEOGR 3670 Geography of Latin America

JOEL HANCOCK, Professor, Languages & Literature. SPAN 3950 Service Learning in Spanish; SPAN 4630 Survey of Spanish American Literature

REBECCA HORN, Associate Professor, History. HIST 1300 Latin American Civilization to the 1820s; HIST 1310 Latin American Civilization since the 1820s; HIST 3300 History of Mexico; HIST 4290 Colonies and Cultures; HIST 4300 Topics in Latin American History; HIST 4990 Senior Seminar

KEN JAMESON, Professor, Economics. ECON 5460 Latin American Economic History and Development

DOUGLAS JONES, Assistant Professor, Anthropology.

LISA FLORES, Assistant Professor of Communications, Ethnic Studies Coordinator, Chicano Studies Director. ETHNC 2560 Chicana/o Experiences

EDWARD MAYER, Assistant Professor, Languages & Literature. ETHNC 2560 Chicana/o Experiences; ETHNC 3770 Chicana/o Literature

DAVID MICKELSEN, Associate Professor, English. ENGL 3780 Global/Transitional Literature; ENGL 5860 Studies in Post-Colonial Literature

MAURICIO MIXCO, Professor, Linguistics. LING 5240 Linguistic Structure of Spanish; LING Topics in Spanish Linguistics

CAROLYN MORROW, Associate Professor, Languages and Literature. SPAN 4720 Hispanic Narrative

RICHARD PAINE, Associate Professor, Anthropology. ANTHR 3321 The Classic Maya; ANTHR 3322 Mesoamerican Anthropology

ERICH PETERSEN, Associate Professor, Geology & Geophysics

SUSIE PORTER, Assistant Professor, History and Gender Studies Program
HIST 1310 Latin American Civilization Since the 1820s; HIST 3300 History of Mexico; HIST 4300 Topics in Latin American History; HIST 4310 Gender and Power in Latin America; HIST 4990 Senior Seminar; WMST 5050 Feminist Analysis of Race, Class, and Sexuality

RAUL RAMOS, Assistant Professor, History and Ethnic Studies. ETHNC 2560 Chicana/o Experiences; HIST 4540 Chicana/o History Since 1849

ANTONIO SERRATO-COMBE, Professor, Architecture, ARCH 6203

ARMANDO SOLORZANO, Associate Professor, Family and Consumer Studies

STEVE TALLMAN, Associate Professor, Business, Director of CYBER Program.

SOFIA VILLENAS, Assistant Professor, Education, Culture, & Society. ETHNC 2560 Chicana/o Experiences

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Utah State University – National Environmental Policy Act (NEPA) Certificate Program – Action Item

Issue

Officials at Utah State University (USU) request approval to offer a National Environmental Policy Act (NEPA) Certificate Program effective upon Regents' approval.

Background

The proposed Certificate Program, which will be offered through the Natural Resource and Environmental Policy Program in the College of Natural Resources, has been developed to provide training related to the National Environmental Policy Act (NEPA). NEPA requires the preparation of various types of environmental impact assessment documents within stringent guidelines. Poorly or incorrectly prepared documents could diminish the effectiveness of environmental decision-making, and may cause expensive delays and increased costs. The proposed program has been developed in response to a national need by government agencies, private businesses, public interest organizations, and other groups involved in the NEPA process for more comprehensive NEPA training, and a market opportunity to develop such a certificate program through a western university.

The goal of the program is to provide students with a more comprehensive educational framework for understanding both the technical and non-technical requirements of the law. Although there are some private consulting firms and institutions of higher education that offer shortcourses on NEPA, officials at USU have been unable to identify another program in the United States which offers as comprehensive a package of courses as those being proposed for this certificate program. The proposed program is also unique in its requirement of a capstone experience to ensure students' mastery of NEPA concepts and ability to implement them in their capacity as natural resource professionals.

The proposed program has been developed in collaboration with Shipley Group, Inc., a private consulting firm with more than 20 years of experience in NEPA training. Both USU and Shipley Group will be involved in providing courses for the program.

Utah State University will have primary responsibility for oversight and administration through the Natural Resource and Environmental Policy Program. Courses will be offered in locations throughout the United States in order to make the program accessible to natural resources professionals working for various federal and state agencies and private firms. Courses will also be offered on a regular basis on the Utah State University campus. All courses will be offered in the shortcourse format of either two or three consecutive eight-hour days (depending on the course). Shipley Group, Inc. is currently offering courses to approximately 2000 natural resource professionals annually, to whom USU will have access for marketing of this program. It is estimated that 10 percent of these professionals will be interested in taking the NEPA shortcourses for university credit in the first year of the program, and that the number of students interested in the Certificate will increase by approximately 5 percent each year as the program becomes better known. In addition, students currently enrolled in USU degree programs have expressed interest in the program.

The proposed NEPA Certificate Program will be self-supporting through revenue generated from course fees and tuition. Course fees will cover the costs associated with actual delivery of the courses (e.g., faculty wages, course materials, marketing, etc.) paid through the Office of Continuing Education. A portion of the tuition will be used to cover the academic program administrative costs. All courses have been developed and are currently being offered on a non-credit basis. Development costs for the program were covered through a Quinney Foundation Grant. No state or institutional funds are requested for the NEPA Certificate Program.

Policy Issues

No concerns were expressed by other USHE institutions. This program qualifies as a substantive change under the standards of the Northwest Association of Schools and Colleges. Officials at USU have notified the Northwest Association of their plans to offer this program and are awaiting Northwest's response.

Options Considered

After the Regents have reviewed the proposal from Utah State University to offer a National Environmental Policy Act Certificate Program, they may raise issues, request additional information, deny the request or approve the request.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents approve the proposal from Utah State University to offer a National Environmental Policy Act Certificate Program effective immediately.

Cecelia H. Foxley, Commissioner

CHF/LF
Attachment

Academic and Applied Technology Education Committee

Action Item

Request to Offer a National Environmental Policy Act (NEPA) Certificate Program

Utah State University

Prepared for
Cecelia H. Foxley
by
Linda Fife

March 6, 2002

SECTION I

The Request

Officials at Utah State University (USU) request approval to offer a National Environmental Policy Act (NEPA) Certificate Program effective upon Regents' approval. This program was approved by the institutional Board of Trustees on January 11, 2002.

SECTION II

Program Description

Complete Program Description – The Natural Resource and Environmental Policy Program has developed a Certificate Program to provide training related to the National Environmental Policy Act (NEPA). The goal of the program is to provide students with a more comprehensive educational framework for understanding both the technical and non-technical requirements of the law.

The Certificate Program initially will include the following 11 new courses (see appendix A for detailed course descriptions):

- How to Manage the NEPA Process and Write Effective NEPA Documents (2 credits)
- Clear Writing for NEPA Specialists (2 credits)
- Reviewing NEPA Documents (2 credits)
- Risk Communication for NEPA Specialists: Strategies and Implementation (2 credits)
- Cultural and Natural Resource Management (1 credit)
- Environmental Compliance Overview (1 credit)
- Interdisciplinary Team Building (1 credit)
- Public Speaking for the NEPA Specialist (1 credit)
- Understanding and Preparing Statements of Work and Specifications (1 credit)
- NEPA Writing for Technical Specialists (1 credit)
- NEPA Capstone Experience (1 credit)

The proposed NEPA Certificate Program courses will be offered in locations throughout the United States in order to make the program accessible to natural resources professionals working for various federal and state agencies and private firms. Courses will also be offered on a regular basis on the Utah State University campus. All courses will be offered in the shortcourse format of either two or three consecutive eight-hour days (depending on the course). Each course will be worth one or two academic credits. In addition to attending the course, students will be required to read the course materials and complete a written assignment that tests their comprehension of both the lecture and reading material. Course credits will be allocated according to the academic standards set by Utah State University's Educational Policies Committee.

To receive the certificate, a student will need to complete the following set of requirements: 1) if the student is not already enrolled in a degree program at Utah State University, the student must complete a Utah State University admission form to take courses under a non-matriculated status;

2) apply and be accepted into the NEPA Certificate Program by the Director of the Natural Resource and Environmental Policy Program; 3) register for and successfully complete seven instructional courses, including some required courses and some elective courses; and, 4) undertake an individual capstone experience, for university credit, that involves a negotiated project, internship, or comprehensive examination. A student who successfully completes the curriculum will receive an official Utah State University certificate of completion from the National Environmental Policy Act (NEPA) Certificate Program, and notification of this certificate will appear on the student's Utah State University transcript.

Purpose of the Program - The purpose of the proposed certificate program is to provide training related to the National Environmental Policy Act (NEPA). NEPA requires the preparation of various types of environmental impact assessment documents. The content and style required for NEPA documents are specific, detailed, and demanding. Poorly or incorrectly prepared documents could diminish the effectiveness of environmental decision-making, and may cause expensive delays and increased costs. The proposed program has been developed in response to a national need for more comprehensive NEPA training, and a market opportunity to develop such a certificate program through a western university. Courses developed for the program are designed to prepare natural resource and environmental professionals to meet the challenges of complying with the act and working effectively on NEPA documents. Government agencies, private businesses, public interest organizations, and other groups involved in the NEPA process need individuals who have been trained in decision making, analysis, and documentation aspects of NEPA, as well as the accompanying Council on Environmental Quality (CEQ) regulations and various agencies' NEPA implementing procedures.

Officials at USU believe a NEPA Certificate will also significantly increase USU students' employment opportunities and make them more competitive in the job market. Students who successfully complete the proposed program will enter the workforce with a solid understanding of both the spirit and the letter of the law. The program will also teach them how to be more effective members of interdisciplinary teams responsible for developing NEPA documents.

Admission Requirements - To apply and be accepted into the proposed NEPA Certificate Program, a person must do the following: 1) complete and submit a NEPA Certificate Program application form to the Natural Resource and Environmental Policy Program and pay a $50 non-refundable application fee; 2) complete a Utah State University admission form, pay a $10 fee, and provide Utah State University with demographic data necessary to determine ethnicity, residence classification, etc.; and, 3) provide a transcript documenting completion of a bachelor's degree.

Student Advisement - A full-time professional staff person employed by the Natural Resource and Environmental Policy Program will be assigned to assist students in understanding and meeting the proposed NEPA Certificate Program requirements. It is assumed that most students in the Certificate Program will consist of working professionals who already have bachelors' degrees and are non-Utah State University students (i.e., students who are only enrolled in the NEPA Certificate Program but not in Utah State University degree programs). Utah State University students (i.e., students currently enrolled in degree programs at Utah State University) will have both their regular faculty advisor, and the Natural Resource and

Environmental Policy Program staff person to support them in understanding and meeting the NEPA Certificate Program requirements.

External Review and Accreditation - The Natural Resource and Environmental Policy Program collaborated with Shipley Group, Inc. (a private consulting firm with more than 20 years of experience in NEPA training) to develop the proposed NEPA Certificate Program. Both entities will be involved in providing courses for the program. However, Utah State University will have primary responsibility for overseeing and administering the program through the Natural Resource and Environmental Policy Program, an academic program within the College of Natural Resources (which will manage curriculum issues) and the Office of Continuing Education (which will manage the financial aspects). Shipley Group, Inc. has built a successful business by providing specialized NEPA training and consulting services. Some of Shipley's training courses and workshops, along with its instructional materials, will become part of Utah State University's NEPA Certificate Program. In addition, Shipley Group Inc. will assist Utah State University in marketing the program in order to utilize their reputation and contacts within the various federal agencies. Shipley Group, Inc. will also be one of the entities offering internships to students in order to provide them with experience working with federal agencies, serving on interdisciplinary teams, and developing NEPA documents.

Although the certificate program is not requesting separate accreditation, Northwest Association of Schools and Colleges Accreditation Standards require notification of any major changes in an institution they have accredited. This program qualifies as a substantive change under their standards. Officials at USU notified the Northwest Association of Schools and Colleges of the potential for this program in May 2001; a response has not yet been received.

Projected Enrollment - Student enrollment for the NEPA Certificate Program is anticipated to be between 200 and 300 graduate students per year for the first five years. Students in the program will consist primarily of working professionals located throughout the United States.

Faculty - The proposed NEPA Certificate Program will be managed by the Director of the Natural Resource and Environmental Policy Program, a faculty member in the Department of Forest Resources and a faculty member associated with the Watershed Science Program. Certificate program courses will be offered by university-affiliated faculty recruited by both Utah State University and Shipley Group, Inc. Adjunct faculty status at Utah State University will be sought for Shipley-recruited faculty who participate in the program. Utah State University faculty offering courses in natural resource policy, which are deemed by the advisory board to enhance the NEPA curriculum, will be encouraged to offer their own courses in a shortcourse format in order to serve students in the program.

Staff – Currently the Natural Resource and Environmental Policy Program employs one full-time professional staff person and one half-time staff assistant. The professional staff person will be assigned half-time to this program. Responsibilities will include advising students in the program, administering and grading tests, coordinating program evaluation, and assisting the Director of the program. Initially, the staff assistant will have minimal duties associated with the program. However, as the program grows, an increase in the amount of time spent by the staff assistant in working with the program is anticipated. Administration of the program, including registration and enrollment in

courses, collection of fees and tuition, program accounting, and student tracking will be facilitated by Utah State University's Office of Continuing Education.

Library and Learning Resources - Library services on Utah State University's campus are sufficient for Utah State University students enrolled in the NEPA Certificate Program. Students will be given the opportunity during their capstone experience to work on a project affiliated with their work in natural resources (e.g., serving as a member of an interdisciplinary team developing a NEPA document) or to do an internship with a federal or state agency or private firm working on NEPA-related projects and documents. These projects and internships will be completely self-supporting in that they will be paid for by the agencies or private firms, and will not require Utah State University financial resources.

SECTION III

Need

Program Necessity - NEPA is an important environmental law that requires analysis of impacts, alternatives, and mitigation measures and that applies to all major federal actions affecting the environment, both within the territorial boundaries of the U.S. and at foreign military installations. Government agencies, private businesses, public interest organizations, and other groups involved in the NEPA process need individuals who have been trained in decision making, analysis, and documentation aspects of NEPA, as well as the accompanying Council on Environmental Quality (CEQ) regulations and various agencies' NEPA implementing procedures.

At the present time, very few universities offer a NEPA training program, and officials at USU are not aware of a NEPA Certificate Program offered by any other university. The proposed program is an innovative concept, allowing Utah State University's Natural Resource and Environmental Policy Program and the College of Natural Resources the opportunity to fill a need currently not being met, by better preparing natural resource and environmental professionals to meet the challenges of complying with NEPA. For example, students will learn how to work effectively and efficiently on interdisciplinary teams, prepare useful and defensible NEPA documents, review and evaluate NEPA documents, deal with controversial issues and the public, and be more effective communicators. All of these courses are geared toward meeting the disclosure requirements of NEPA and promoting sound decision-making on environmental issues.

Currently, Utah State University offers students two courses which address environmental impact statements and NEPA. The Department of Landscape Architecture and Environmental Planning (LAEP) offers a 2-credit course spring semester, LAEP 6900 - *Special Topics: Environmental Impact Assessment (National Environmental Policy Act).* Consistent staffing for this course has been an ongoing concern for the department, and the course has historically been taught by a graduate student. The act is also briefly covered in NR 4000 - *Natural Resources Policy and Economics*. Neither of these courses is comprehensive enough to give USU students the necessary background on NEPA needed by natural resource professionals working for federal and state agencies or private consulting firms.

Labor Market Demand – The Natural Resource and Environmental Policy Program currently offers an Interdisciplinary Graduate Certificate in Natural Resource and Environmental Policy. Students who have completed the program indicate that the certificate has assisted them in obtaining employment by enhancing their degree training. It is reasonable, therefore, to assume that employers in the area of natural resources place a high value on certificates earned through university programs, especially ones that diversify a student's academic training.

Officials at USU have discussed the idea of a NEPA Certificate Program with various managers and employees of federal agencies, including the Bureau of Land Management, the U.S. Forest Service, the Army National Guard, and other military branches, and have been told there is a market for employees who are knowledgeable on the subject of NEPA. Currently, such training is generally obtained "on the job" or through shortcourses provided within agencies, often contracted through private consulting firms. Shortcourses are in high demand and are well attended by natural resource professionals. In addition, the proposed certificate program has been discussed with owners and employees of several private environmental consulting firms and they have also expressed enthusiasm about the concept and are anxious to participate in the program.

Student Demand - Discussions with employees of various federal agencies regarding the proposed NEPA Certificate Program suggest that the program will be viewed by natural resource professionals as an opportunity to enhance their skills and make them more effective at their work, as well as make them more marketable to other agencies and companies. In addition, some students currently enrolled in USU degree programs have expressed interest in the NEPA Certificate Program. Officials at USU are convinced that students successfully completing the NEPA Certificate Program will have a competitive edge in the job market, making the program attractive to both Utah State University students and natural resource professionals throughout the United States working for government agencies, private firms, and non-profit organizations.

Similar Programs - The proposed certificate program will be unique. In researching NEPA training programs, officials at USU were unable to find another university offering a NEPA Certificate Program. Duke University's Nicholas School for the Environment currently offers six executive education courses on the NEPA process. It does not, however, offer a certificate in NEPA.

Although there are some private consulting firms, such as Shipley Group, Inc., which offer shortcourses on NEPA, officials at USU have been unable to identify another program in the United States which offers as comprehensive a package of courses as those being proposed for this certificate program. Additionally, the proposed program is unique in its requirement of a capstone experience to ensure students are mastering NEPA concepts and can implement them in their capacity as natural resource professionals.

Collaboration with and Impact on Other USHE Institutions - The proposed NEPA Certificate Program should not negatively impact other USHE institutions since they are not currently offering a NEPA Certificate Program. The program will, however, be seeking qualified faculty to assist in teaching these courses throughout the United States, and will be open to recruiting faculty from other USHE institutions to teach in the program.

Benefits - The proposed NEPA Certificate Program will offer courses both on Utah State University's campus, as well as off-campus, in cities across the United States. Offering the program throughout the United States will expand Utah State University's extension and continuing education activities. Courses offered on-campus will provide Utah State University students with innovative and valuable educational opportunities, as well as opportunities to interact with individuals from various government agencies and private industries actively involved in resource management, decision making, and policy development. The program will also enhance Utah State University's reputation in the natural resource and environmental policy arena on a national basis. In addition, officials at the U of U think this program may prove to be a valuable recruitment tool for some of the existing graduate degree programs.

The quality of the program should complement the already strong reputation of USHE institutions. As people throughout the country participate in this program, it will increase USU's visibility and reflect well on all of Utah's higher education institutions.

Consistency with Institutional Mission - The proposed NEPA Certificate Program directly supports the missions of Utah State University, the College of Natural Resources, and the Natural Resource and Environmental Policy Program. The proposed program will help to advance Utah State University's stated goals of "preparing students to serve the people of Utah, the nation and the world" and, "provide to individuals, communities, institutions and industries...services that help improve technology, the environment and quality of life." It will meet the College of Natural Resources' stated goal to "educate natural resource and environmental professionals and others interested in enduring and healthy ecosystems and their value to future generations," which is a primary goal of NEPA as well. Lastly, it meets the stated goal of the Natural Resource and Environmental Policy Program "to provide service to policy makers, natural resource managers, and public constituencies through applied research, analysis, and information transfers."

In addition, the proposed Certificate Program will help to meet Utah State University's Extension and Continuing Education goals by offering courses in locations more convenient for students.

SECTION IV

Program and Student Assessment

Program Assessment - The primary goal of the proposed NEPA Certificate Program is to prepare natural resource and environmental professionals to meet the challenges of complying with the act and working effectively on NEPA documents. The courses will offer students the education and training needed to fully understand both the spirit and the letter of this law. Some of the courses will teach students how to be more effective members of interdisciplinary teams responsible for developing high quality NEPA documents. Other courses will help students learn to be more effective communicators, both through written and verbal communication. Providing some USU students with the opportunity to earn a NEPA Certificate should increase their employment opportunities and make them better natural resource managers.

To achieve these goals and facilitate ongoing improvement, the program will be assessed through individual course evaluations as well as overall curriculum evaluation, involving students, faculty, and the advisory board.

Students will be asked to do an evaluation of course content, instructors, text books, and other course materials after the completion of each course. In addition, students who have completed the proposed program and received the certificate will be asked to evaluate the program as a whole. Finally, these students will be tracked over time and contacted periodically after graduating from the program to determine if, in fact, the program was beneficial in improving their job performance, and in making them more competitive in the job market.

USU faculty members will also be asked to attend various certificate program courses to provide peer evaluations. Most of these will be courses offered on the USU campus, and faculty members will be asked to submit to the Program Director a written evaluation of the course.

The proposed NEPA Certificate Program will also have an advisory board consisting of representatives from the following organizations: Utah State University's Natural Resource and Environmental Policy Program; Utah State University's College of Natural Resources; the Shipley Group, Inc.; federal and state agencies (major client agencies); the EPA or another group overseeing NEPA nationally; and, a public interest organization. The principal responsibility of the board will be to oversee the program, including evaluating and making recommendations on the curriculum (e.g., addition of new courses and revision of existing courses), as well as reviewing course materials and assignments. Advisory Board members will be supplied with student evaluations of courses, course materials, and a standing invitation to attend class sessions. The board will meet at least once per year.

Expected Standards of Performance - To receive the proposed NEPA Certificate, a student will have to complete 12 semester units of credit consisting of course work offered through USU. All courses except the capstone will be offered in the shortcourse format of either two or three consecutive eight-hour days (depending on the course). Students within the program will receive a letter grade for each course completed, and will be expected to maintain a 3.0 GPA. In addition, all students accepted into the Certificate Program will be required to abide by the *Code of Policies and Procedures for Students at Utah State University*.

The courses chosen for the proposed Certificate Program have been developed to give natural resource professionals a clear and comprehensive understanding of NEPA and the process required to effectively and fully comply with the act. Each course is designed to facilitate students' comprehension of this important environmental law that affects all major federal actions impacting the environment

Student Assessment - All courses offered in the NEPA Certificate Program will be taken for a letter grade. In addition to attending a course, each student will be required to complete reading and written assignments. It is anticipated that these assignments will be completed after a student has attended the course and has had a chance to read the course materials and text books (s)he receives as part of the course package. Reading materials will be sent to a student before (s)he arrives for a shortcourse, and either the student will complete the written assignment while on site, or provisions will be made for the assignment to be completed and submitted after the student returns home from the

shortcourse. Generally, the assignment will consist of a comprehensive test to ensure that a student has grasped the necessary information from the lectures, course materials, and assigned text books.

In addition, after completing the required course work, students will complete a capstone experience before being awarded the NEPA Certificate. This experience will consist of either a project, internship, or comprehensive examination. The capstone experience will help Utah Sate University to certify that students who receive the certificate have basic mastery of the material presented in the program course work. The capstone experience will be under the direction of a faculty member affiliated with the program and will be subject to oversight from the NEPA Certificate Program Advisory Board.

Continued Quality Improvement - Information received from students, USU faculty, and the Advisory Board pertaining to courses, instructors, text books, and other course materials will be used to improve upon the course curriculum and to determine whether certain courses should be deleted or added to the program.

Assessment of student performances will help us determine whether course assignments were appropriately challenging or adjustments are needed. The capstone experience will also help determine if students are fully comprehending the information received in courses, text books, and course materials.

SECTION V
Finance

Budget – The budget for the first five years of the proposed program appears below:

	2002-2003	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**
Revenue**					
200 Students @ $333.70 (1 credit) (+ 5% enrollment growth per year)	$66,740	$70,077	$73,581	$77,260	$81,123
Expenses					
Salary and Wages*** (+3% per year)	$ 25,650	$ 26,420	$ 27,213	$ 28,029	$28,870
Benefits (38% rate + 3% per year)	9,747	10,039	10,340	10,650	10,970
Operating Expenses (+5% per year)	6,500	6,825	7,166	7,524	7,900
Advisory Board and Program Evaluation Expenses (+5% per year)	24,000	25,200	26,460	27,783	29,172
Total Expenses	$ 65,897	$ 68,484	$ 71,179	$ 73,986	$ 76,912
Ending Balance	$843	$1,593	$2,402	$3,274	$4,211

****** Currently Shipley Group, Inc. is offering courses to approximately 2000 natural resource professionals annually, to whom USU will have access for marketing of this program. It is estimated that 10 percent of these professionals will be interested in taking the NEPA shortcourses for university credit in the first year of the program, and that the

number of students interested in the Certificate will increase by approximately 5 percent each year as the program becomes better known.

*** The development costs for this program (i.e., a portion of salaries and benefits for faculty and staff) were covered by a Quinney Foundation Grant.

Funding Sources – The proposed NEPA Certificate Program will be self-sustaining. The funding for this program will be generated from course fees and tuition received from students taking the courses for academic credit. Course fees will cover the costs associated with actual delivery of the courses (e.g., faculty wages, course materials, marketing, etc.) paid through the Office of Continuing Education. A portion of the tuition will be used to cover the academic program administrative costs. No state or institutional funds are requested for the NEPA Certificate Program.

A certain number of scholarships will be made available for each NEPA Certificate Program course taught on the Utah State University campus. These scholarships will be allocated to Utah State University students (i.e., students pursuing degrees at Utah State University), enabling them to attend the courses at Continuing Education tuition rates.

Course Fees

A course fee will be established for each course, with the amount dependent upon the anticipated enrollment and the anticipated costs. These course fees will be established in consultation with the program's marketing agent, Shipley Group, Inc., which has over 20 years of experience in marketing such training to government and private industry. All course materials will be provided as part of the course fee.

For all *open enrollment courses* (both on the Utah State University campus and off-campus), an individual course fee will be established and charged to each person enrolling in the course. Course fees will be paid directly to USU's Office of Continuing Education.

For *agency-contracted courses* (courses offered through contracts with various agencies), the course fee will be the contract price negotiated for delivery of a particular course in a particular location to a particular constituency of students. This course fee will be paid directly to Utah State University, according to contract stipulations.

Tuition

Any person enrolled in a NEPA Certificate Program course may take it for Utah State University academic credit by paying tuition. All persons working to earn a NEPA Certificate must take the courses they wish to count toward the certificate for academic credit. Tuition will be the responsibility of the individuals in the courses and will be paid directly to Utah State University's Office of Continuing Education. All students paying Utah State University tuition will receive a grade for the course.

All students taking the courses for academic credit will pay Continuing Education tuition rates. The rate is the same for in-state and out-of-state students.

Impact on Existing Budgets - The proposed NEPA Certificate Program has been developed in such a way that expenses for most of the courses will not be incurred until sufficient course fees and tuition have been received to pay those expenses. The exception is for courses that will be guaranteed to be taught at USU at least once per year. These courses will be held even if the program needs to subsidize them. Officials at USU do not anticipate that this will be the case, however, given that two open enrollment courses have already been held at USU and they filled both times. Therefore, the Certificate Program is not expected to negatively impact the Natural Resource and Environmental Policy Program budget. On the contrary, as the program grows, it is anticipated that it will provide revenue needed to allow the Natural Resource and Environmental Policy Program to expand with it.

Appendix A

Program Curriculum and Course Descriptions

To receive the proposed National Environmental Policy Act (NEPA) Certificate, a student will have to complete 12 semester units of credit consisting of course work offered through Utah State University (USU). Initially, the following courses will comprise the required curriculum for the NEPA Certificate Program. All of the courses listed are new to the USU curriculum. They are currently being offered on a non-credit basis.

NEPA Certificate Program Core Courses **8 credits**

Students will be required to take all four of the following courses, preferably in the order in which they appear below. Each course will consist of three instructional days, with additional time required to complete reading and examination assignments. Each core course will be worth two semester credits.

NR 6200 ***How to Manage the NEPA Process and Write Effective NEPA Documents*** **2 credits**

This course is an introduction to the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations. Students will learn: the various levels of NEPA documentation; how to develop a reasonable range of alternatives; how to identify potential issues; how to develop public involvement strategies; the importance of identifying other relevant environmental laws; how to develop a systematic process for quantitatively and qualitatively predicting effects; and, the skills necessary to identify the actions needed for a thorough environmental analysis.

NR 6210 ***Clear Writing for NEPA Specialists*** **2 credits**

This course will help students learn how to identify the writing and editing requirements unique to NEPA documents including making graphics, writing chapters, and reviewing documents for accuracy. Students will also practice interdisciplinary team skills as they relate to each phase of the analysis and documentation process.

NR 6220 ***Reviewing NEPA Documents*** **2 credits**

The primary focus of this course is to learn how to review the full range of NEPA documents including Environmental Impact Statements (EISs), Environmental Assessments (EAs), Findings of No Significant Impacts (FONSIs), and Records of Decisions (RODs). Students will concentrate on setting review priorities, reviewing for compliance with the law, reviewing for quality and readability, and preparing review comments.

NR 6230 ***Risk Communication for NEPA Specialists: Strategies and Implementation*** **2 Credits**

In this course, the students will learn the meaning and application of risk communication and explore the full range of response communication, including developing a communication plan and strategy, standing before an audience, and to responding to comments in writing. The course is interactive and is designed to build more effective planning and communication skills.

NEPA Certificate Program Elective Courses **3 credits**

Students will be required to take three courses of their choice from the following list. Each of these courses will consist of two instructional days, with additional time required to complete reading and examination assignments. Each course will be worth one semester credit.

NR 6260 ***Cultural and Natural Resource Management*** **1 credit**

The purpose of this course is to help students learn how to manage cultural and natural resources on public lands. It addresses the pertinent laws and associated executive orders and regulations pertaining to the preservation of these resources. In addition, it will look at how to integrate cultural and natural resources funding requirements into an environmental budget.

NR 6270 ***Environmental Compliance Overview*** **1 credit**

This course is designed to help students understand why environmental compliance is not only desirable and necessary, but also a personal responsibility. It will identify key laws and regulations, with associated penalties that affect environmental compliance. The course also looks at the anticipated future of environmental programs.

NR 6280 ***Interdisciplinary Team Building*** **1 credit**

The objectives of this course are to have students: learn the general principals of interdisciplinary team building; understand how information flows and how this can impact the success of a team; understand the importance of effective communication; and, facilitate an overall team approach to achieve credibility, manage change, and increase performance. Students in the course will work as a team to apply the principles learned to scenarios of day-to-day actions.

NR 6290 ***Public Speaking for the NEPA Specialist*** **1 credit**

Students will learn how to design and deliver effective presentations to small and large groups, as well as the media. The course will include exercise techniques for planning and preparing presentations. Students will be required to prepare and deliver several types of presentations, which will include designing effective visuals to accompany the presentations. Students will be given ideas on how to manage stress, and use that stress to energize their presentations. Students will also learn how to prepare for questions, organize answers, regulate the flow of interaction, and handle hostile or interrupting questions. The course will include information on dealing with the media and using it as a tool to inform the public.

NR 6300 ***Understanding and Preparing Statements of Work and Specifications*** **1 credit**

Students in this course will learn a systematic approach to the writing and reviewing of environmental Statements of Works (SOW). Providing hands-on experience, this course includes case studies and examples that apply to actual environmental projects.

NR 6310 ***NEPA Writing for Technical Specialists*** **1 credit**

This course is designed to teach students how to use a “document management process” to become more efficient writers of NEPA documents. In this course, students will learn: how

and when to use various types of graphics; how to produce a working first draft of a NEPA document and conduct peer and managerial review sessions; the various levels of document revisions, and how to select which level is appropriate; and, how to adapt their writing to different formats.

Capstone Experience **1 credit**

After completing the required instructional course work, students will be required to complete a capstone experience before being awarded the NEPA Certificate.

NR 6370 ***NEPA Capstone Experience*** **1 credit**

This experience will be individualized to each student, and will consist of either a project, internship, or comprehensive examination. The actual capstone experience will be negotiated, based upon opportunities available at the time and preferences of the student. The capstone experience will help Utah State University to certify that students who receive the certificate have basic mastery of the material presented in the program course work. The capstone experience will be under the direction of a faculty member affiliated with the program and will be subject to oversight from the NEPA Certificate Program Advisory Board.

Courses will be offered at Utah State University and at other locations around the country. All courses will be offered in the shortcourse format of either 2 or 3 consecutive eight-hour days (depending on the course). In addition to attending the course, students will be required to complete readings and an examination assignments. Course credits will be allocated according to the academic standards set by Utah State University's Office of Continuing Education.

Some regular Utah State University semester courses will be reviewed for possible inclusion in the NEPA Certificate Program. Since one of the purposes of this program is to provide Utah State University students with educational opportunities not currently provided through the existing Utah State University curriculum, there will be a limit on the number of regular Utah State University semester courses a Utah State University student could apply toward the NEPA Certificate.

However, if existing Utah State University courses are identified or new ones developed that we would like to include in the NEPA Certificate Program, every effort will be made to have the Utah State University faculty member offer a shortcourse version of the course for the benefit of non-Utah State University students in the program. These courses will most likely be offered at Utah State University, which will bring more non-Utah State University students to campus.

Appendix B

Faculty

Associate Professor and Program Director

- **Joanna Endter-Wada**, Ph.D., University of California, Irvine
  Areas of Specialty: Natural Resource and Environmental Policy and Social Sciences

Lecturer and Program Administrator

- **Judith Kurtzman**, M.S., Utah State University
  Areas of Specialty: Natural Resource and Environmental Policy; NEPA

Adjunct Associate Professors

- **Ronald Shook**, Ph.D., Indiana University of Pennsylvania
  Areas of Specialty: Technical Writing; Environmental Documentation; Statements of Work: Rhetoric and Linguistics

Adjunct Assistant Professors

- **Larry H. Freeman**, Ph.D., University of Oregon.
  Areas of Specialty: Environmental Writing; Technical and Scientific Reports; Project Management and Team Writing

- **Sidney L. Jenson**, Ph.D., University of Utah
  Areas of Specialty: NEPA Consulting; NEPA Document Review and Assessment; Technical Report Writing

- **Roger Bacon**, Ph.D., University of Washington
  Areas of Specialty: NEPA Consulting; NEPA Document Review and Assessment; Environmental Technical Writing

- **John Butt**, Ph.D., Michigan State University
  Areas of Specialty: NEPA Consulting; Public Involvement; Public Meeting Facilitation

- **Richard Wall**, Ph.D., Michigan State University.
  Areas of Specialty: Specifications and Statements of Work; Technical Writing; Project Management

- **Robert J. Morris**, M.A., Brigham Young University, J.D., University of Utah College of Law
  Areas of Specialty: International Law; Negotiations

- **John Maestas**, ED.D. Brigham Young University
  Areas of Specialty: Public Relations; Program Management

Adjunct Instructors

- **Richard Moore**, MBA, University of Utah
  Areas of Specialty: NEPA and CEQ Compliance, Training, and Consulting; Environmental Documents Writing and Review

- **Marcia J. Galli**, M.Ed., Cultural Foundations of Education
  Areas of Specialty: Communicating Risk Orally and in Writing; Business and Technical Writing; Presentation Skills

- **Randle K. Bunner**, M.S., Environmental Management
  Areas of Specialty: Team Building Facilitation; Risk Communication Facilitation; Project Management and Team Writing

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Utah State University – Composite Mathematics/Statistics Education Major (Bachelor of Science Degree) – Action Item

Issue

Officials at Utah State University (USU) request approval to offer a Composite Mathematics/Statistics Education Major (Bachelor of Science Degree) effective Fall, 2002.

Background

The Department of Mathematics and Statistics at USU currently offers a Bachelor's Degree in Mathematics Education as well as a Mathematics Teaching Minor. The proposed program is an extension of education-related degrees in Mathematics and Statistics that will (1) increase the number of qualified teachers in mathematics by encouraging study in a related field, i.e., statistics, which naturally appeals to many students of mathematics; 2) eliminate the need for students to complete a totally separate teaching minor; and 3) meet all of the national and state standards in mathematics. In addition, although there are currently no Utah standards of competence in statistics required for teachers of the discipline, such standards are anticipated in the future. The proposed composite major represents what officials at USU believe should be the core curriculum for teachers of statistics in Utah secondary schools.

The need for qualified teachers in the mathematical sciences is becoming increasingly critical. Further, as statistics becomes more integrated into high school curricula, the need for qualified statistics teachers will also grow, with accompanying standards of competence. The proposed program anticipates and addresses the coming standards for teachers of statistics. Students who complete the composite major would be able to teach in both mathematics and statistics with competence. These graduates would be in even more demand than the current mathematics education majors.

The number of current faculty is adequate to successfully support the proposed program. No additional staff, facilities, library or other learning resources are required. Only two new courses need to be developed. The rest of the courses already exist.

Policy Issues

No concerns were raised by other USHE institutions. Officials at the University of Utah and Utah Valley State College expressed support for the proposed program. Because this program involves teacher certification, the program will also be submitted to the Utah State Board of Education for approval of the certification component.

Options Considered

After the Regents have reviewed the proposal from Utah State University to offer a Composite Mathematics/Statistics Education Major (Bachelor of Science Degree), they may raise issues, request additional information, deny the request or approve the request.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents approve the proposal from Utah State University to offer a Composite Mathematics/Statistics Education Major (Bachelor of Science Degree), beginning Fall Semester, 2002, contingent upon approval by the Utah State Board of Education.

Cecelia H. Foxley, Commissioner

CHF/LF
Attachment

Academic and Applied Technology Education Committee

Action Item

Request to Offer a Composite Mathematics/Statistics Education Major (Bachelor of Science Degree)

Utah State University

Prepared for
Cecelia H. Foxley
by
Linda Fife

March 6, 2002

SECTION I

The Request

Officials at Utah State University (USU) request approval to offer a Composite Mathematics/Statistics Education Major (Bachelor of Science Degree), effective Fall, 2002. This program was approved by the institutional Board of Trustees on January 11, 2002.

SECTION II

Program Description

Complete Program Description –The curriculum for the proposed program, including course descriptions, is included in Appendix A. A sample class schedule can be found in Appendix B.

Purpose of Degree – Utah State University proposes to offer this composite degree to achieve two primary goals:

1) To increase the number of qualified teachers in mathematics by encouraging study in a related field, i.e., statistics, which naturally appeals to many students of mathematics and which would eliminate the need to complete a totally separate teaching minor. The requirement to complete a separate teaching minor is for many (but not all) mathematics education students unnecessary. This statement is based on the current and projected long-term severe shortage of qualified mathematics teachers which in almost all cases means that such a qualified teacher will teach only mathematics all day every day;

2) To meet anticipated standards of competence in statistics for middle and high school mathematics teachers. Consistent with the Principles and Standards for School Mathematics (PSSM), the study of statistics is now integrated in middle and high school mathematics courses in addition to the introduction of stand-alone statistics courses (e.g., AP Statistics). Although there are not yet in Utah standards of competence in statistics required by teachers of the discipline, implementation of such standards is anticipated. The proposed composite major program will meet all the national and state standards in mathematics and represent what officials at USU think should be the core curriculum for teachers of statistics in Utah secondary schools.

Students who complete the composite major would be able to teach in both areas with competence, and would thus be in even more demand than the current mathematics education majors. Officials at USU anticipate that approximately half of the existing mathematics education majors would choose this program instead of the mathematics major-separate minor option, and that this option will attract additional students who would not otherwise enter either field.

Admission Requirements – Admission to the Teacher Education Program in the proposed major will require a cumulative GPA of at least 3.0 in the equivalent of Math 1210, 1220, and 2210 (the 3 semester course in the calculus), a GPA of 3.0 in Stat 1040, and Stat 2000 or 3000, and an overall GPA of at least 2.75. Graduation from this major also requires an overall GPA of at least 2.75.

Student Advisement – As is the case with all USU majors, each student will be assigned a regular faculty member as his/her advisor, with whom the student will meet at the beginning of the program of study and at least once each semester thereafter.

External Review and Accreditation – This proposal is consistent with the most recent recommendations of the National Council of Teachers of Mathematics (NCTM), the Mathematical Association of America (MAA), and the American Mathematical Society (AMS) regarding the preparation of mathematics teachers for secondary schools. The proposal was developed by the Department of Mathematics and Statistics Undergraduate Curriculum Committee with input from the Mathematics Curriculum Specialist for the Utah State Office of Education. The proposal was also discussed with members of the joint NCATE and State Office of Education accreditation team, and was reviewed by the joint public education/higher education Educator Development Advisory Committee (EDAC). The program will also be submitted to the Utah State Board of Education for approval.

Projected Enrollment – The projected enrollment in this program for the first five years is 20-25 students per year, with expected graduation in the range of 10-15 students per year. Some of these students will move from the Mathematics Education Degree with teaching minor and some will enter directly, either as freshmen or transfers from other majors.

Expansion of Existing Program – The department currently offers a Bachelor's Degree in Mathematics Education and also has a Mathematics Teaching Minor. The proposed program is an extension of education-related degrees in Mathematics and Statistics. The enrollment trend in the Mathematics Education Major for the last five years has been a gradual increase from 61 majors to 84 in the fall of 2001, an increase of approximately 38 percent.

Faculty – The number of current faculty is adequate to successfully support the proposed program at this time. A list of current faculty who will support the proposed program is included in Appendix C.

Staff – No additional staff are required to support the proposed degree.

Library and Learning Resources – The libraries at Utah State University are adequate for all program needs. The University and the Department continue to develop extra learning resource facilities, e.g., classrooms (Geology 405) dedicated to the Department that contain computers, software, and high-tech teaching stations.

SECTION III

Need

Program Necessity – The proposed program is needed because of (1) the increased emphasis on teaching statistics in secondary schools, (2) recent recommendations of relevant professional societies (i.e, NCTM, MAA, and AMS and accrediting organizations (e.g., NCATE and the Utah State Office of Education), and (3) clear indications that such a program will attract more undergraduates into mathematics education at a time when the demand for mathematics teachers is increasing.

Labor Market Demand – Nationally, the need for qualified teachers in the mathematical sciences is becoming increasingly critical, and is expected to grow during the next generation. Further, as statistics becomes more mainstream in high school curricula, the need for qualified statistics teachers will also grow, with accompanying standards of competence. The proposed program anticipates and addresses the coming standards for teachers of statistics.

All of USU's current graduates in Mathematics Education are able to obtain employment in the public schools in Utah, with demand as high elsewhere in the nation. Other states conduct employment fairs in Utah where external districts bring signing bonus checks directly to the fair in an attempt to hire USU graduates. The current average number of job offers for each graduate is six, and this number is expected to grow.

Student Demand – The student demand for the current Bachelor's Degree Program in Mathematics Education is increasing, partly because students like the material and partly in response to the huge existing shortage of teachers in the discipline. This is in spite of the low and non-competitive salaries offered in Utah. The combination of a Major in Statistics and Mathematics will appeal to a broader audience and will allow study in two related fields instead of a major in mathematics and a minor in an unrelated and almost never-to-be-used minor. There is direct evidence for student demand in that all the current math education majors meet with their advisors at least once per semester and this potential program has been described and enthusiastically received. Approximately half of the existing math education majors alone have expressed a desire to enroll in this program. While this major is expected to be attractive to students who want to teach in either area, if so much as one potential teacher of mathematics stays in this program instead of changing majors because of the current unrelated teaching minor requirement it will benefit the State of Utah.

Similar Programs – At the present time, no such program is offered in Utah. Officials at USU are not aware of any in the Intermountain Region.

Benefits –The immediate and long-term need for qualified secondary school teachers of mathematics and statistics has been articulated at the national level by the

federal government and in Utah by the Governor. All efforts that result in an increase of qualified teachers in mathematics and statistics address this severe shortage.

Consistency with Institutional Mission – This program is entirely consistent with Utah State's mission and is a needed expansion of an existing program that graduates secondary school teachers of mathematics.

SECTION IV

Program and Student Assessment

Program Assessment – The proposed program is designed to increase the number of highly qualified mathematics and statistics teachers who lead middle, junior high, and senior high students to do meaningful mathematics and statistics as described in NCTM's *Principles and Standards for School Mathematics*. Results from routine USU-wide and Department-wide assessment procedures (e.g., students' course-evaluation questionnaires, Department Head's monitoring of instructional performances, and exit interviews with students) will be used for formative feedback as well as summative evaluation of the programs effectiveness. Furthermore, a qualitative research study will be conducted in which a subset of those matriculating through the program will be the subjects of comparative case studies that will provide ongoing feedback as well as a description of the progress of their engagement in the program and into their second years as in-service mathematics teachers.

Expected Standards of Performance – The goals of the capstone mathematics course (i.e., Math 5500) and the two special teaching methods courses (i.e., Math 4500 and Stat 4500) reflect the competencies program participants are expected to bring to their student teaching or internship experience:

1. Pre-service teachers will use the language of sets and apply rudimentary principles of set theory to develop mathematical paradigms of real-world phenomena.
2. Pre-service teachers will discover how mathematics (at all levels of sophistication) can be used to address real-life problems. They will understand how interrelations among the following are critical to problem solving: qualitative variables, quantitative variables, measurements, numbers, numerals, algorithms, quantitative constants, qualitative constants, quantitative relations, communication structures, and qualitative relations.
3. Pre-service teachers will discover the role of binary operations in the invention of algorithms and they will develop real-world based, set-theoretic definitions of +, -, •, and / on subsets of {complex numbers}.
4. Pre-service teachers will analyze mathematical and statistical content from middle, junior high, and high school curricula so that they (a) interrelate topics, (b) construct critical concepts, (c) discover why relationships exist, (d) discover why certain algorithms work, (e) assess the value of various topics, and (f) apply the useful topics to address problems that are perceived to be real-life by pre-adolescent and adolescent students.
5. Pre-service teachers will integrate appropriate technology in their teaching of mathematics.

6. Pre-service teachers will develop strategies for gaining and maintaining students' cooperation.
7. Pre-service teachers will develop strategies for conducting learning activities so that students willingly and enthusiastically engage in them.
8. Pre-service teachers will understand how to control mathematics and statistics curricula and how to design and implement curricula so that students learn meaningful mathematics and statistics.
9. Pre-service teachers will develop strategies for designing lessons that lead students to construct mathematical and statistical concepts and to discover mathematical and statistical relationships.
10. Pre-service teachers will develop strategies for designing lessons that lead students to acquire and remember mathematical and statistical information and develop algorithmic skills.
11. Pre-service teachers will develop strategies for designing lessons that lead students to communicate with the language of mathematics and comprehend mathematical messages.
12. Pre-service teachers will develop strategies for designing lessons that lead students to apply mathematics and statistics to real-life situations, foster their creativity with mathematics and statistics, and develop an appreciation for and willingness to do mathematics and statistics.
13. Pre-service teachers will develop authentic assessment strategies for monitoring students' progress with mathematics and statistics as well as for making summative evaluations of students' mathematical and statistical achievements.

Student Assessment – Besides test results obtained in each course, authentic assessment strategies will be employed in some of the mathematics courses, professional education courses, and in the student teaching or internship. In Math 4620, students will develop electronic working portfolios that are expanded upon in Math 4400, Math 5500, Math 4500, Stat 4500 as well as throughout their professional education courses. These individualized professional portfolios reflect pre-service teachers' progress relative to the aforementioned 13 goals. Department faculty members will conduct extensive direct and interactive observations of the pre-service teachers at work in classrooms teaching mathematics and statistics to secondary-school students in the field base courses (i.e., Math 4500, Stat 4500, and ScEd 5600).

Continued Quality Improvement – The ongoing monitoring involving portfolio assessment, direct and interactive classroom observations of pre-service teachers at work in secondary schools, and the ongoing qualitative research study will provide continual feedback for formative judgments for improving the program.

SECTION V

Finance

Budget – No additional funding is requested for the proposed program. Incidental expenses associated with this new major will be covered from existing budgeted monies in the Department of Mathematics and Statistics.

Appendix A

Program Curriculum and Course Descriptions

New Courses to be Added in the Next Five Years

Course Number	Title	Credit Hours
Math 5500	Capstone Mathematics & Statistics For Teachers	3
Stat 4500	Methods of Teaching Statistics	3

Existing Courses

Course Number	Title	Credit Hours
Stat 1040	Introduction to Statistics	3
Math 1210	Calculus I	4
Math 1220	Calculus II	4
Stat 3000	Statistics for Scientists	3
or Stat 2000	Statistical Methods	3
Math 2210	Multivariable Calculus	3
Math 2250	Linear Algebra & Differential Equations	4
or Math 2270	Linear Algebra	3
Stat 4920	SAS Shortcourse	1
Stat 5100	Linear Regression & Time Series	3
Math 3110	Modern Geometry	3
Math 4200	Foundations of Analysis	3
Math 4310	Introduction to Algebraic Structures	3
Math 4400	History of Mathematics & Intro. Number Theory	3
Math 4620	Comp. Aided Math for Secondary Math Teachers	3
Math 5500	Capstone Mathematics & Statistics For Teachers	3
Math 5710	Introduction to Probability	3

Stat 5200	Design of Experiments	3
Stat 5890	Problem Solving in Statistics	3
SpEd 4000	Education of Exceptional Children	2
ScEd 3100	Motivation & Classroom Management	3
ScEd 3210	Educational & Multicultural Foundations	3
Math 3300	Clinical Experiences I	1
Math 4500	Methods of Teaching Mathematics	3
Stat 4500	Methods of Teaching Statistics	3
ScEd 4200	Reading, Writing, & Technology	3
ScEd 4210	Cognition & Evaluation of Student Learning	3
Math 4300	Clinical Experiences II	1
IT 5750	Advanced Tech. for Secondary School Teachers	2
ScEd 5300	Clinical Experiences III	1
ScEd 5500	Student Teaching Seminar	2
ScEd 5600	Student Teaching	8

General Education	(24-30) Credits	**Sub-Total 24-30**
Core Courses	(86-87) Credits	**Sub-Total 86-87**
Elective Courses	10 Credits	**Sub-Total 10**
Track/Options (if applicable)		**Sub-Total**

Total Number of Credits 120-127

Note: This degree program can be completed with fewer than 126 credits. A student would affirmatively have to select courses that would take him/her to 127 credits.

Course Descriptions

Stat 1040. (QL). Introduction to Statistics. Descriptive and inferential statistical methods. Emphasis on conceptual understanding and statistical thinking. Examples presented from many different areas. Prerequisite: Math ACT score of 19 or greater, Math 1010, or 70 percent or greater on Math 1050 placement test. (3 cr)

Math 1210. (QL). Calculus I. Analytic geometry, differential and integral calculus, transcendental functions, and applications. Graphing calculator required. Prerequisites: Math

1050 and 1060, or an AP calculus score of at least 3 on the AB test, or a math ACT score of at least 27. (4 cr)

Math 1220. (QL). Calculus II. Integration, infinite series, introduction to vectors, and applications. Graphing calculator required. Prerequisite: Math 1210, or AP score of at least 4 on calculus AB exam or at least 3 on calculus BC exam. (4 cr)

Stat 2000. (QI). Statistical Methods. Introduction to statistical concepts, graphical techniques, probability, distributions, estimation, one and two sample testing, chi-square tests, and simple linear regression. Prerequisite: Math 1050. (3 cr)

Stat 3000. (QI). Statistics for Scientists. Introduction to statistical concepts, graphical techniques, discrete and continuous distributions, parameter estimation, hypothesis testing, and chi-square tests. Prerequisites: Math 1100 or 1210. (3 cr)

Math 2210. (QI). Multivariable Calculus. Vector calculus, multiple integration, partial derivatives, line and surface integrals. The theorems of Green, Gauss, and Stokes. Prerequisite: Math 1220 or AP calculus score of 5 on BC exam. (3 cr)

Math 2250. (QI). Linear Algebra and Differential Equations. Linear systems, abstract vector spaces, matrices through eigenvalues and eigenvectors, solution of ode's, Laplace transforms, first order systems. Prerequisite: Math 1220 or AP calculus score of 5 on BC exam. (4 cr)

Math 2270. (QI). Linear Algebra. Topics from linear algebra, including matrices, abstract vector spaces, linear independence, bases, eigenvalues, eigenvectors, orthogonality, least squares approximation, and linear transformations. Recommended for Math and Math Education majors. Prerequisite: Math 1220 or AP math score of 5 on calculus BC exam. (3 cr)

Stat 4920. SAS Shortcourse. Access to and use of the SAS statistical analysis program. (1 cr)

Stat 5100 (CI, QI). Linear Regression and Time Series. Methods for prediction and hypothesis testing in multiple linear regression models, including analysis of variance and covariance, logistic regression, introduction to time series, and signal processing. Prerequisite: Stat 2000 or 3000. (3 cr)

Math 3110. Modern Geometry. Euclidean and non-Euclidean geometry, with emphasis on historical significance of parallel postulate. Axiomatic development of geometry and theorems. Prerequisite: Math 1220. (3 cr)

Math 4200. (CI). Foundations of Analysis. Fundamental concepts of analysis studied from a rigorous point of view. Rigorous development of the real number system and calculus. Emphasis on learning how to construct proofs. Prerequisites: Math 2210, 2250; or Math 2210, 2270, 2280. (3 cr)

Math 4310. (CI). Introduction to Algebraic Structures. First course in theory of algebraic structures. Topics include elementary group and ring theory. Prerequisites: Math 2210, 2270, 2280; or Math 2210, 2250. (3 cr)

Math 4400. History of Mathematics and Number Theory. Chronological parallel of math history with civilization, evolution of mathematical thought, historical foundations of numbers, computation, geometry, algebra, trigonometry, and calculus. Introduction to Number Theory. (3 cr)

Math 4620. Computer Aided Math for Secondary Math Teachers. Problem solving using symbolic manipulation software on computers. Topics include material introduced in Math 1210, 1220, 2210, 2250, 2270, and 2280. Includes instruction in the use of modern computerized devices in the classroom. Prerequisites: Math 2210, 2250; or Math 2210, 2270, 2280. (3 cr)

Math 5500. Capstone Mathematics and Statistics for Teachers. This is a capstone course that builds on the competencies attained in mathematics and statistics in such a way that they will be able to connect with and relate mathematics and statistics to real world problem solving, and enhance the student's capacity to explain conceptual mathematics. Prerequisites: Math 4200, Math 4310, and Math 4400. (3 cr)

Math 5710. Introduction to Probability. Discrete and continuous probability, random variables, distribution and density functions, joint distributions, Bayes' theorem, moments, moment generating functions, inequalities, convergence in probability and distribution, and central limit theorem. Prerequisites: Math 2210, and Math 2250 or 2270. (3 cr)

Stat 5200. Design of Experiments. Design, analysis, and interpretation of experiments, split plots, incomplete blocks, confounding, fractional factorials, nested designs, two- and three-way analysis of variance, covariance, and multiple regression. Prerequisite: Stat 2000 or 3000. (3 cr)

Stat 5890. (CI). Problem Solving in Statistics. Capstone course for Statistics majors, applying course material covered in the undergraduate major. Prerequisite: Permission of instructor. (3 cr)

Professional Education Component:

<u>Level 1:</u>

ScEd 3100. Motivation and Classroom Management. Exploration of adolescent motivation and development, as well as research-based techniques for classroom management in middle and secondary schools. Prerequisite: Program admission. (2 cr)

ScEd 3210. Educational & Multicultural Foundations. Provides pre-service teachers the opportunity to critically examine the political, economic and educational policies which influence students' access to equitable educational experiences. The historical and philosophical foundations influencing the nature of multicultural education in our Democratic society, how

personal biases can influence instructional practices, and development of multicultural curriculum relevant to specific content areas will be examined. Prerequisite: Program admission. (3 cr)

Math 3300. School Laboratory for Mathematics Teachers Level I. Provides preservice mathematics teachers with supervised experiences working with teachers and students in middle and secondary schools. Activities coordinated with other Level I professional education courses, including Math 4500 and ScEd 3100. Concurrent enrollment required in Inst 5200, ScEd 3210, and a special methods course. (1 cr)

Math 4500. Methods of Secondary School Mathematics Teaching. A teaching methods course required of all prospective secondary school mathematics teachers. Prerequisites: Math 3110, and one of Math 4200 or 4300. (3 cr)
Stat 4500. Methods of Teaching Statistics in Secondary and Middle School. Concurrent enrollment in Math 4500; Math 3110, one of Math 4200 or 4310, one of Stat 2000 or 3000. (3 cr)

Level 2:

SpEd 4000. Education of Exceptional Individuals. Characteristics of all types of exceptional children with emphasis on the educational and psychological implications of these conditions to the development of the child. (2 cr)

ScEd 4200. Reading, Writing, and Technology. Performance-based class focused on a wide range of academic skills related to reading, writing, and advanced technology access. Prerequisite: Program admission and completion of Level 1. (3 cr)

ScEd 4210. **Cognition and Evaluation of Student Learning.** Designed to lead the pre-service secondary school teacher to address two questions (1) How students construct concepts, discover relationships, develop knowledge-level skills, comprehension and communication skills, and problem-solving abilities. (2) How teachers monitor students' progress, evaluate and communicate their achievement, interpret system-wide and standardized test results to students and their parents. (3 cr)

Math 4300. School Laboratory for Mathematics Teachers Level II. Provides pre-service mathematics teachers with supervised experiences working with teachers and students in middle and secondary schools. Activities coordinated with other Level II professional education courses, including Math 4500 and ScEd 4100. Concurrent enrollment required in SpEd 4000, ScEd 4100, 4200, and a special methods course. (1 cr)

Level 3:

InsT 5200. Instructional Technology Workshop. Special training and experience in latest concepts and innovations in instructional technology. Content changes to reflect most recent topics and problems facing the profession. (1-4 cr)

ScEd 5300. Clinical Experience III. Third clinical practicum in middle and secondary schools. Arranged by Office of Field Experiences for 5 weeks before student teaching (40 hours minimum). Required of all students at Level 3. Prerequisites: level 1 and Level 2 completion, and student teaching placement. (1 cr)

ScEd 5500. Student Teaching Seminar. Ten-week capstone seminar focused upon student teaching issues, professional development, and principles of effective instruction, emphasizing reflective teaching. Prerequisites: Level 1 and Level 2 completion, and student teaching placement. (2 cr)

ScEd 5600. Student Teaching in Secondary Schools. Ten-week culminating practicum in which students assume full-time teaching responsibilities under direction of cooperating teachers in major and minor fields. Prerequisites: Level 1 and Level 2 completion, and student teaching placement. (8 cr)

Admission to the Professional Education Program requires a cumulative GPA of at least 3.0 in the equivalent of Math 1210, 1220, 2210 and a cumulative GPA of at least 3.0 in Stat 1040, 2000 or 3000, and an overall GPA of at least 2.75. No more than 3 repeats in all required courses may be used in GPA computations. The Secondary Education Professional Component is mostly completed in the last three semesters of the degree program.

Appendix B

Program Schedule

Semester 1: Stat 1040 (3), Calc I (4), English 1010 (3), 2 Gen-ed classes(6)

Semester 2: Calc II (4), Stat 3000 (3), College of Science Course (4), Gen-ed class (3)

Semester 3: Calc III (3) , English 2010 (3), College of Science Course (4), Gen-ed class (3), SpEd 4000 (2)

Semester 4: Math 2250 (4), 2 Gen-ed classes (6), Math 5710 (3), SAS Shortcourse (1), Math 3110 (3)

Semester 5: Math 4200 (3), Math 4310 (3), Stat 5100 (3), Math 4620 (3), Elective (3)

Semester 6: Math 4400 (3), Stat 5200 (3), Math 3300 (1), ScEd 3100 (3), ScEd 3210 (3), Math 5500 (3)

Semester 7: Stat 5890 (3), Math 4500 (3), Stat 4500 (3), ScEd 4200 (3), ScEd 4210 (3), Math 4300 (1)

Semester 8: ScEd 5300 (1), ScEd 5500 (2), ScEd 5600 (8), IT 5750 (2)

Appendix C

Faculty

Professors: *Ian M. Anderson*, differential geometry, global analysis; *LeRoy B. Beasley*, matrix theory, linear algebra, combinatorics; *James Cangelosi*, mathematics education; *Lawrence O. Cannon*, topology, mathematics education; *Chris S. Coray*, numerical analysis; *E. Robert Heal*, analysis, statistics, mathematics education; *Lance L. Littlejohn*, differential equations, special functions; *L. Duane Loveland*, geometric topology, continuum theory; *Jerry Ridenhour*, differential equations; *David H. Sattinger*, differential equations; *Renate Schaaf*, nonlinear differential equations; *Russell C. Thompson*, differential equations; *Zhi-Qiang Wang*, nonlinear differential equations, nonlinear analysis; *Stanley C. Williams*, measure theory, modern analysis.
Associate Professors: *Daniel C. Coster*, experimental design, linear models; *Adele Cutler*, statistical computing; *D. Richard Cutler*, generalized linear models; *Mark E. Fels*, differential geometry*; Kevin Hestir*, applied probability; *Joseph V. Koebbe*, numerical analysis, applied mathematics, computational fluid dynamics; *Michael C. Minnotte*, nonparametric density estimation, statistics; *Daniel K. Nakano*, algebra; *James A. Powell*, applied mathematics, mathematical biology; *Emily F. Stone*, dynamical systems, applied mathematics; *Kathryn L. Turner*, numerical analysis, optimization, linear algebra; *Dariusz M. Wilczynski*, topology.
Assistant Professors: *Christopher C. Corcoran*, computational biostatistics; *Piotr Kokoszka*, statistic and time series analysis; *Xiaofeng Ren*, partial differential equations, applied mathematics; *Juergen Symanzik*, computational and graphical statistics; *Mourad Tighiouart*, survival analysis/bayesian reliability.

All faculty listed above have earned Ph.D. degrees with research areas listed after faculty names.

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Report on Utah State University and University of Utah Second Annual Undergraduate Poster Session

Report

On January 24, 2002, Utah State University (USU) and the University of Utah (UU) held their second annual "Posters on the Hill" session in the rotunda of the Utah State Capitol. The purpose of the poster sessions was to honor and showcase research projects completed by undergraduates from both institutions. Mostly seniors, these students worked one-on-one with faculty mentors who oversaw their research projects. The posters gave a visual representation of their research and findings.

Originally the brainchild of Dr. Joyce Kinkead, Vice Provost for Undergraduate Studies and Research (USU), the "Posters on the Hill" project has expanded to includes more student researchers from both institutions. Dr. Slava Lubomudrov, Director and Senior Associate Dean of the Undergraduate Research Opportunities Program and Undergraduate Studies (UU), organized the University of Utah students whose poster presentations were represented.

Student research covered heady topics such as: The Dopamine Transporter Locus in Association of Attention Deficit Hyperactivity Disorder, Whey Protein Extrudates, Genome Analysis of Parasite Resistance in Sheep, A Sensitive Flourescent Assay for Cellular PLA2 Activity, Friedreich's Ataxia's Involvement with Mitochondrial Iron, and Diagnosing the Heart Disease Long QT Syndrome with Sinus Arrhythmia. Not all research was limited to arcane scientific studies. There also were posters on Bacterial Meningitis on College Campuses, the Ethical Implication of Using Age as a Factor in Health Care Delivery, and Parent-Toddler Bookreading: Parents' Open-ended Questions and Children's Language.

Both institutions have found different ways to reach out to legislators. Utah State University students' hometowns were listed in the abstract book, and legislators were informed of the students who come from their regions. The University of Utah listed the name of the high school from which each student graduated. This, too, was an effort to make legislators aware of their ties to the students.

Both institutions agree on what constitutes research. Dr. Kinkead stated that, 'By research, we mean not only the laboratory science but also scholarship and creative activity." Utah State University supports, through the Vice President for Research, the Undergraduate

Research and Creative Opportunities (URCO) Grant Program. The URCO supports students' research on campus during the annual "Student Showcase" and out of state at the National Conference on Undergraduate Research. Dr. Kinkead sees the poster sessions as a "window on the undergraduate experience at research universities." These students present their research and creative work at regional and national discipline-specific conferences as well.

The University of Utah will be hosting the National Conference on Undergraduate Research, March 13th through the 15th, in 2003. Dr. Lubomudrov will chair the conference whose purpose is to "see, hear, and discuss research and creative work conducted by undergraduate students under faculty supervision." The conference will include oral presentations, poster sessions, and artistic work and performances. Proposals for presenters will be solicited from students from all USHE institutions that support faculty mentoring of undergraduate research and creative work. Both Drs. Kinkead and Lubomudrov view the conference as an opportunity to create local and statewide awareness of higher education's support for faculty-supervised student research and the learning that takes place beyond classroom walls.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Board of Regents recognize the contributions made by Utah State University and the University of Utah in undergraduate research, particularly those of the faculty and young adults involved in undergraduate research and creative projects. Also, the commitment of both Utah State University and the University of Utah to expand these opportunities to both faculty and undergraduates annually is to be praised and encouraged.

Cecelia H. Foxley, Commissioner

CHF/PCS

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Programs Under Development/Consideration at USHE Institutions - Information Item

Issue

During the April, 2001 Board meeting, the Regents requested periodic reports from the Commissioner's Office on programs under development or consideration at USHE institutions.

Background

The attached report provides information, for a thirty-six month period, on programs under development or consideration by USHE institutions. The first section of the report is for the 12-month period from March, 2002 through February, 2003. The second section contains information for the subsequent 24-month period from March, 2003 through February, 2005. Changes from the last report, submitted in October, 2001, appear in bold type.

Policy Issues

The attached report is for the Regents' information. However, given the budget reductions faced by the USHE for Fiscal Years 2002 and 2003, the Regents are encouraged to review this information carefully and provide future direction to USHE institutions regarding new program development and implementation.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents review the information contained in the attached report and use this information to provide direction to USHE institutions regarding future development and implementation of new programs.

Cecelia H. Foxley, Commissioner

CHF/LF
Attachment

Utah System of Higher Education
Programs Under Development/Consideration

Section I

From: March, 2002 through February, 2003

Note: Items in bold type indicate changes in status since this matrix was last reviewed by the Regents.

Institution	Program Name	Degree Type	Current Status at Institution	Projected Timeframe for SBR Agenda
U of U	Ethics & Public Affairs	Certificate	**Approved by Trustees**	**April, 2002**
	Business Studies	**Graduate Cert.**	**Academic Senate March**	**May, 2002**
	Instructional Design & Technology (Specialization)	**M.Ed., MS**	**SBR Agenda Mar., 2002**	**March, 2002**
	Professional Master of Science & Tech	Master's	**SBR Agenda Mar., 2002**	**March, 2002**
	Foods and Nutrition	Minor	**Academic Senate March**	**May, 2002**
	Mechatronics	**Graduate Cert.**	**Academic Senate April**	**May, 2002**
	Entrepreneurship	**Bachelor**	**Academic Senate April**	**May, 2002**
	International Studies	**BA/BS/Minor**	**Undergraduate Council March**	**July, 2002**
	Consumer & Community Studies	BA/BS	**Academic Senate March**	**May, 2002**
USU	Professional Degree in Audiology	AuD	**SBR Agenda Mar., 2002**	**March, 2002**
	Composite Teaching in Mathematics and Statistics	**BS**	**SBR Agenda, Mar., 2002**	**March, 2002**
	Business w/Specializations in Accounting, BIS, Mgt., Marketing and Operations Mgt.	**PhD**	**Started through instit. process**	**May, 2002**
	Aerospace Engineering	**MS, PhD**	**Started through instit. process**	**Spring, 2002**
	Biochemistry	**BS**	**Started through instit. process**	**Fall, 2002**
	Applied Environmental Geosciences	**BS, MS**	**Started through instit. process**	**Fall, 2002**

Institution	Program Name	Degree Type	Current Status at Institution	Projected Timeframe for SBR Agenda
	Geology	**PhD**	**Started through instit. process**	**Fall, 2002**
Dixie	Visual Technologies	AAS	**Trustees March, 2002**	**Summer, 2002**
	Health Science Management	**BS**	**Trustees May, 2002**	**Fall, 2002**
CEU	Hospitality Management	AS/AAS	Curriculum Committee Oct. 2001	**On Hold**
	Transportation Technology	AS/AAS	**Curriculum Committee May, 2002**	**August, 2002**
	Apprenticeship	AAS	**Curriculum Committee Nov. ,2002**	**January, 2003**
	Paraprofessional Educator	AS/AAS	**Curriculum Committee Dec., 2002**	**February, 2003**
UVSC	**Computer Engineering**	**BS**	**Circulated to Inst. & USHE Office**	**April, 2002**
	Electrical Engineering	**BS**	**Circulated to Inst. & USHE Office**	**April, 2002**
	Art and Visual Communication	**BA/BFA/BS**	**R401 2nd Draft**	**May, 2002**
	Dance	**BA/BFA/BS**	**R401 1st Draft**	**May, 2002**
	Music	**BA/BS**	**R401 1st Draft**	**May, 2002**
	Theater	**BA/BS**	**In Development**	**May, 2002**
	Community Health Education	**BS**	**R401 1st Draft**	**July, 2002**
	Physical Education/Recreation	**BS**	**In Development**	**July, 2002**
	Applied Technology	**BAT**	**R401 1st Draft**	**July, 2002**
	Spanish	BA/BS	Proposal in Reading Stage, Dean/AVP	**October, 2002**
SLCC	Film-Video School	AAS	**Preparing Proposal**	**April, 2002**
	Geoscience	AAS	**In Development**	**September, 2002**
	Chemistry	AS	**In Development**	**September, 2002**
	Chemistry Technician	AAS	**In Development**	**September, 2002**
	Pharmacy Technician	AAS	Initial Assessment	
	Interior Design Associate	AAS	**SBR Agenda April, 2002**	**April, 2002**

Utah System of Higher Education
Programs Under Development/Consideration

Section II

From: March, 2003 through February, 2005

Institution	Program Name	Degree Type
U of U	Occupational Therapy	MS
	Physical Therapy	DPT
	Parks, Recreation and Tourism	MPRTM
	College of Health Departments and Divisions	Interdisciplinary PhD in Health
	Community Development (Env. Studies & FCS)	Undergrad. Certificate
	Anthropology of Religion	Undergrad. Certificate
	Medical Anthropology	Undergrad. Certificate
	Power Politics of Anthropology	Undergrad. Certificate
	Research & Assessment	Undergrad. Certificate
	Pharmaceutical Sciences	BS
	Combined Doctor of Pharmacy/ Philosophy	Doctoral
	Historic Preservation	**Certificate**
	Gender Studies	**Certificate**
	Demography	**Certificate**
USU	Professional Communication	PhD
	Philosophy	MA
	Public Administration	MS
	Law and Economics	PhD
	Agricultural Policy Relations	BS
	Interdisciplinary Doctorate in Disabilities	**PhD**
WSU	European Studies without Language	Minor
	Professional and Technical Writing	Bachelor's
	Instrumental Music Pedagogy	Bachelor's
	Bachelor of Applied Technology	BAT
SUU	Envir. Resource Mgt. or Natural Resource Mgt.	MS
	General Studies (School of Cont./Prof. Studies)	BS
	Public Administration (with U of U)	MPA
	Communications	**MA/MS**
	Theory and Practice of Writing	**MA**
	Paralegal Studies	**Stand-alone Minor**
	Dance	**BFA**
	Theatre Arts	**BFA**
	Counseling Psychology	MA/MS
	Exercise Science	BA/BS

Institution	Program Name	Degree Type
Dixie	Communication Technologies	BS
	Speech Language Pathology (Incubated by USU)	BS
	Medical Radiography	AAS
	Bachelor of Nursing	BSN
CEU	Environmental Studies	AA/AS
	Environmental Science	AA/AS
	Wilderness Studies	AA/AS
	Safety Science	AA/AS
	Manufacturing Engineering Technology	AA/AS
	Allied Health Professions	Certificate
UVSC	ASL/Linguistics	BA/BS
	Avionics Technology	AAS
	Communication	BA/BS
	Electronic Engineering Technology	BS
	Environmental Technology	BS
	French	BA
	Geography	BS
	Health Services Administration	BS
UVSC	**Integrated Circuit Technology**	**AAS**
	Mechanical Engineering	BS
	Major Appliance Repair Technology	**AAS**
	Mild/Moderate Special Education	**BA/BS (Reading Stage w/Dean, AVP)**
	Nanotechnology and Integrated Circuit Engineering	BS
	Networking and Telecommunication Engineering	BS
	Political Science	BA/BS
	Semiconductor Technology	**AAS**
	Software Engineering	BS
SLCC	Genealogy	AAS
	Hospitality Management	AAS
	Horticulture	AAS
	Pre Bio-Engineering	APE
	Mechanical Engineering	AAS
	Civil Engineering	AAS
	Electrical Engineering	AAS

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Information Calendar, Academic and Applied Technology Education Committee

The following items, which will be implemented Fall Semester, 2002, have been submitted by the designated institutions for review by the Regents on the Information Calendar of the Academic and Applied Technology Education Committee. The items have been approved by the institutional Boards of Trustees. No action is required by the Regents.

A. University of Utah

1. The University of Utah (UU) is requesting approval for a Graduate Certificate in Information Systems targeted to non-matriculated students.

The David Eccles School of Business (DESB) currently has a Graduate Certificate in Management of Technology with emphasis in Information Systems (IS) that is available to MBA students. This certificate will now be available to graduate students in the School of Accounting and Information Systems.

This program is designed to prepare students who have a background in any area for careers in information systems. The program is also designed for individuals who have been in IS for a number of years and hope to update their knowledge. The program includes courses that will provide a solid background in the basic skills needed by someone in Information Systems.

The U.S. Bureau of Labor Statistics (BLS) estimates that the high-tech industry is expected to create an additional 2 million jobs by 2008. By the end of this decade, 7 million Americans are projected to be working for a high-tech company. The demand for individuals with an emphasis in IS is also strong within the valley.

Officials at the UU do not anticipate any negative impact on existing programs or additional cost to the institution.

B. Utah State University

1. The Department of Instructional Technology requests a *name change* for its undergraduate minor from "Instructional Technology Minor" to "Multimedia Development Minor".

This change will provide consistency between official University documents. There is no official record of the department changing the name of this minor. However, the University Catalog has listed the Multimedia Development Minor as such since 1996. The need is to bring consistency within University records and publications. The change will allow student transcripts and other official documents to reflect the title of the minor that has been advertised for the past five years.

2. The Department of Business Information Systems requests the following name changes in its degrees:
   a. Change the name of the Business Teacher Certification Emphasis in the Business Information Technology and Education Major to Business Teacher License.
   b. Change the name of the Marketing Teacher Education Emphasis in the Marketing Education Major to Marketing Teacher License.

These changes will make the titles consistent with the Utah State Office of Education terminology change from "Teaching Certificate" to "Teaching License".

3. The Department of Plants, Soils, and Biometeorology requests the following changes:
   a. Change the name of the Business Option to Business Emphasis
   b. Change the name of the Science Option to Science Emphasis
   c. Change the name of the Plant Option to Plant Emphasis.
   d. Delete the Soil and Water Emphasis from the Environmental Soil/Water Science Major.
   e. Delete the Fruit and Vegetable Emphasis from the Horticulture Major.

The proposed changes will standardize terminology to use "emphasis" rather than "option" and delete emphases no longer offered.

4. Change the names and prefixes of areas of emphasis within the Department of Journalism and Communication as follows:

Delete	MDMG	Media Management (no longer offered)
	PRNS	Print News
	NRT	Journalism Teaching (no longer offered)

PUBR	Public Relations

Add the following:

PRJO	Pre-Journalism
PNTJ	Print Journalism
BREL	Broadcast/Electronic Media
PRCC	Public Relations/Corporate Communication

During the calendar change to semesters, this department restructured its entire curriculum. The new courses were organized into the emphases listed above.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents review the Information Calendar and raise any questions they may have. No action is required by the Board.

Cecelia H. Foxley, Commissioner

CHF/GSW

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Consent Calendar, Academic and Applied Technology Education Committee

1. University of Utah

   A. Approval to offer an Emphasis in Instructional Design and Technology within two approved programs, the Master of Science and the Master of Education Degrees

The Department of Educational Psychology proposes to offer a new program emphasis, Instructional Design and Technology (IDT), within the Master of Education (M.Ed.) and the Master of Science (M.S.) Degree Programs. The Department proposes to begin the new program emphasis beginning Fall Semester, 2002. The IDT Program Emphasis has been approved by the institutional Board of Trustees.

Purpose. The Instructional Design and Technology (IDT) Program is a Master's-level graduate program emphasis that consists of either 30 semester units leading to the Master in Education (M.Ed.) Degree or 36 semester units leading to the Master of Science (M.S.) Degree. The IDT proposed program prepares students to analyze, design, develop, implement, and evaluate technology-based instruction for educational contexts. Students pursuing either the M.S. or M.Ed. Degree would learn theoretical principles of learning and instructional design associated with technology-supported instruction, and they would use these principles in various technological applications to support best teaching practices. The instructional design component of the program would provide students with the knowledge and skills necessary for the analysis of learner needs and goals and the development of instructional systems to meet them. Individuals pursuing these degrees would focus much of their course work on school-based projects or on projects that address practical and theoretical issues of technology use. Although the primary goal of the program is to prepare graduates for employment in educational contexts, the training also prepares students for work in business, industry, and government. The M.S. Degree also prepares students for research positions and further graduate education.

Because the students primarily would be working educators, the courses would be scheduled during evenings and summer semesters. Entering students must have earned a Bachelor's Degree, with a 3.0 grade point average or higher for the last 60 semester credits (90 quarter credits). Each student would be assigned a program faculty member as primary advisor.

New Courses and Faculty. The IDT Emphasis would make use of some existing courses

in the College of Education. Altogether, the Emphasis includes 15 courses, eight of which would need to be developed over the next five years. These courses include: Foundations of Instructional Design, Assessment and Evaluation in Instructional Design, Human-Computer Interaction, Leadership in Instructional Design, Courseware Development, Web-based Tools and Application, and Computer Networks. These would be taught by existing regular faculty and new clinical faculty during the first two years. One full-time tenure track faculty line dedicated to this content area is needed after two years to further develop and sustain a quality program. Additional faculty lines would be needed to establish a superior program specialty in IDT.

External Review and Accreditation. In designing the IDT Program, the Department of Educational Psychology met with representatives from the Utah State Office of Education (USOE) and teachers from different districts within the state who have interest and experience in educational technology. Elements of the proposed program were designed in part to address technological training needs identified by the teachers. In addition, the Department is currently coordinating the requirements of the proposed program with the USOE, so that the proposed IDT Program simultaneously fulfills requirements for the second level endorsement in educational technology that the USOE plans to offer to K-12 teachers.

Projected Enrollment (next 5 years). The proposed program intends to enroll 15 new students per year in its first two years (10 FTEs), and 15 to 20 new students per year in the remaining three years (a total of between 20 and 27 FTEs). The student-to-faculty FTE ratio is projected to be between eight and eleven to one after the first year. The long-term goals of the proposed IDT Program include the increase of both faculty and student enrollment in order to keep up with the expected demand for advanced technology skills among educators.

Library and Learning Resources. The University of Utah libraries have the basic resources needed to support the proposed program. However, some additional journals and book holdings would be requested. The IDT Program requires an instructional technology laboratory with multimedia workstations on which students develop their instructional design projects. The College is planning a phased development of the laboratory. Space and funding for a small initial laboratory have been identified.

Need. According to *The Power of the Internet for Learning*, a report by the Web-based Education Commission to the President and Congress of the United States (2000), the training that educators receive is usually too little, too basic, and too generic to help them develop real facility in teaching with technology. In addition, a survey of Utah teachers corroborate the findings of a national survey of high school students which showed that they have significant exposure to technology and expect it to be used in education. Also, a career/job market analysis conducted by the office of Academic Outreach and Continuing Education (AOCE), University of Utah, found that the forecasted (1996-2006) increase for instructional design and technology experts in Utah will be 47 percent, compared to the national figure of 26 percent.

Typically, Colleges of Education and Departments of Educational Psychology offer instructional design/technology, a staple among Research I institutions, to address the

technological training needs of teachers. University of Utah officials believe that colleges of education must offer this expertise to their students in order to meet the demands of the 21st century. In addition, the development and growth of the proposed program would expand the research and teaching capabilities of the University of Utah in an area that will only increase in importance in the coming decades. Thus, the establishment of expertise in this area of education is critical to the needs of teachers and the long-term goals of the College and the Department of Educational Psychology.

Availability at other institutions. Utah State University (USU) currently offers an Educational Specialist Degree in Interactive Learning Technologies. The M.Ed. Degree offered at USU is available through distance education via EDNET. The University of Utah's IDT Emphasis would be offered on-site so that students would have ready access to hardware and software that may be prohibitively expensive for individuals. In addition, the on-site nature of the proposed program provides students with face-to-face interactions with their instructors. Officials at USU stated that there is no need for another program. And, in fact, persons living in the Salt Lake Valley can enroll in USU's program. However, officials from the USOE support a Masters-level IDT Program in the Salt Lake Valley because of the need for IDT training. Additionally, support has been given by school districts who are partners with the University of Utah in a College of Education/school districts consortium. Neither USU nor the U of U stated that the proposed program would interfere with the other institutions' ability to attract students.

Standards of Performance. The IDT Program standards and competencies expected of graduating students were derived from the National Educational Technology Standards Initiative by the International Society for Technology in Education (ISTE) and the National Council for Accreditation of Teacher Education (NCATE).

Funding. The University of Utah's central administration, committed to the establishment of the proposed program, is providing "new initiative" funds in the amount of $61,000 for its first year. The remainder of the first year budget would be covered with College of Education funds. The central administration has committed to fund the proposed program for the second year as well. If enrollment growth funding is not available for the 2004-2005 academic year, the College of Education will internally reallocate funds and use adjunct faculty who are both qualified and already in full-time positions at the University. University incentive funds may also be available. The proposed program is expected to cost $117,000 in its first year and $88,300 by the fifth year. Both the College of Education and University of Utah's central administration are committed to the success of the program and will continue to work to secure funding for the IDT Emphasis.

2. Utah Valley State College

A. Approval to offer a secondary education emphasis and certification program in History Education

Officials at Utah Valley State College (UVSC) request approval to offer a secondary endorsement and certification program in History Education through the Departments of History and Political Science and Education. The secondary education emphasis is built upon Regent-approved baccalaureate degrees in Secondary Education and History. The History Emphasis Program was approved by the institutional Board of Trustees on March 5, 2002.

Purpose. UVSC officials in the Departments of History and Education have received numerous inquiries regarding a secondary education endorsement in History. Student advisors report that they have received 70 student inquiries expressing interest in preparation to teach History in the public schools. Expectations are that the proposed History Education Emphasis would measurably increase the number of History majors at UVSC.

Need. Graduates of the History Education Program would be prepared to teach in public or private schools. The "Utah Statewide Labor Demand and Supply by Occupations, 1998-2003," reports a composite job prospect grade of "A" for secondary school teachers. The "2000-2001 Occupational Outlook Handbook" states that employment growth for secondary school teachers nationwide is expected to grow faster than average for all occupations, at least through the year 2008. The sharp increase projected for school-age populations between 2005 and 2010, when the UVSC graduates would enter the pool of available history teachers, along with the projection of retirements and normal attrition of teachers are indicators that prospective UVSC graduates would find employment in secondary education positions.

Requirements. The proposed program requires that interested students meet College application and matriculation standards. The History Education Emphasis requires 36 general education credits, 15 credits in upper-division historical areas of study, 27 credits of history/social science core, six credits in political science and English cognate courses, 30 credits of professional education, plus electives in the 123 credit-hour program. Upon completion, graduates would meet the requirements of the Utah State Office of Education for licensure.

Library and Learning Resources. UVSC Library resources are adequate to support the proposed program. The Library has approximately 20,000 monographs dealing with U.S. and World History and related topics such as political science, military science, and international studies. The Library subscribes to 55 print journals and over 200 online full-text titles specifically for History and related topics. UVSC also participates in the Utah Article Delivery (UTAD) service which provides students and faculty with copies of journals not in the UVSC collection. Through UVSC membership in the Utah Academic Library Consortium (UACL), students and faculty have borrowing privileges at all academic libraries in the State.

Enrollments. The Department expects that 50 students would be enrolled in the proposed program over time.

New Courses. One new course, History 3860, will be added and taught by a current adjunct faculty member who holds secondary education licensure. History 3860 examines teaching methodology and teaching/learning strategies, to prepare students for secondary education certification. History 3860 will utilizes various group projects, classroom exercises, and a teaching project at the end of the semester.

Faculty and Staff. No additional faculty or staff are requested. Current faculty have the expertise to teach the courses required for the proposed History Education Program.

Funding and External Approval. With approved baccalaureate degree programs in History and Secondary Education already in place, no additional resources are needed. Currently, approval for the History Education Emphasis in Secondary Education is being sought from the Educator Development Advisory Committee. Once approval has been given, a recommendation will be forwarded to the State Board of Education. If the approval process is successful, the College expects to begin the proposed program in the Fall of 2002.

B. Approval to offer a secondary education emphasis and certification program in Mathematics Education

Purpose. The Department of Mathematics has responded to a serious shortage of teachers of Mathematics in the secondary schools in Utah. During recent months the UVSC Department of Mathematics has received numerous inquiries from prospective students who want to begin a program in Mathematics Education immediately. With the Regents' approval and institutional implementation of the Baccalaureate Degree Program in Mathematics in 2001, the courses necessary for an Emphases in Mathematics Education are already in place, except for one methods class and a class in computers for mathematics teachers. The school districts in the Mountainlands area have expressed support for the proposed program. The institutional Board of Trustees approved the proposed program.

Need. Even though Mathematics teacher education programs are widely offered, there continues to be a significant shortage of qualified mathematics teachers locally and nationally. The National Commission on Math and Science Teaching in the 21st Century maintains that more than 25 percent of high school teachers of mathematics and science lack appropriate preparation, having neither a minor nor emphasis in these areas. "Utah-Statewide Labor Demand and Supply by Occupation, 1998-2003," a table from the "Utah Labor Demand and Supply" publication, shows a composite job prospect grade of A for secondary school teachers, which is in the top 15 percent of occupations. The Teaching Field Index of Criticality for the Terrel H. Bell Teaching Loan Incentive Program indicates a criticality level of 3.8 for mathematics; 3.0-3.9 demonstrates a moderate shortage and 4.0-4.9 demonstrates a critical shortage.

External Standards and Requirements. The curriculum in the proposed Mathematics

Emphasis meets the Utah State Office of Education (USOE) standards for teacher certification. The proposed program has been reviewed by the state specialist and other institutions. Course requirements include general education (36 semester hours), secondary education (30 semester hours), and Mathematics courses (44 semester hours) and comprise most of the 125 semester hour program.

New Courses. Three new courses would be added. They are: History of Mathematics (Math 3000), Methods of Secondary School Mathematics Teaching (Math 3010), and Computer-based Mathematics for Secondary School Mathematics Teachers (Math 3020). Math 3000 will provide students with a survey of the history of Mathematics. Math 3010 will present different methods of teaching mathematical concepts at the secondary education level. Also included will be techniques of assessment, classroom management, and field experience. Math 3020 will include the use of technology to study the relationship of Mathematics to social conditions, investigate mathematical applications for problem solving, and learn appropriate computer language to write programs. Faculty anticipate that mathematics students will be absorbed into existing courses. The three new courses would be taught only once each per year.

Faculty and Staff. Current faculty are adequate to teach within the proposed Emphasis Program. A mathematics advisor and six of the faculty hold secondary education teaching certificates. Faculty have student supervisory experience in the field and teaching experience at junior and high school levels.

Library and Learning Resources. The UVSC Library uses the Mathematics Association of America (MAA) guidelines for choosing library resources. The Library holds 34 mathematics journals, including journals of the American Mathematical Society. In addition, UVSC is a member of the Utah Academy of Library Consortium which provides faculty, staff, and students with library privileges at all Utah institutions of higher education. Library resources are growing and meet the MAA guidelines. Two computer laboratories are available for 54 students. Two new lap top computers would be needed over two years for the instruction of Math 3020.

Enrollment Projections. UVSC faculty estimate that 10 to 15 new students per year will be attracted to the proposed Mathematics Education Emphasis Program.

Funding and External Approval. Adjunct faculty would be needed to teach the courses that regular faculty would give up in order to teach the three new courses. College officials have stated that tuition income is sufficient to cover the cost of hiring these few adjunct faculty. Currently, approval for the Mathematics Education Emphasis in Secondary Education is being sought from the Educator Development Advisory Committee. Once approval has been given, a recommendation will be forwarded to the State Board of Education. If the approval process is successful, the College expects to begin the proposed program in the Fall of 2002.

C. Approval to offer a secondary education composite Chemistry/Physics Emphasis and certification program

Purpose. The UVSC Departments of Chemistry and Physics have combined to offer a program to prepare science teachers for Utah secondary schools. Department faculty believe that offering a composite emphasis would meet the needs of the largest number of secondary schools and make the graduates more valuable to these schools. Most high schools do not offer enough Chemistry classes for a full teaching load, and the same is true for Physics. The course of study being implemented has been designed to meet endorsement standards set by the State Board of Education. Thus, students would be eligible for a license to teach Chemistry or Physics in Utah schools.

Need. The "Teaching Field Index of Criticality" for the Terrel H. Bell Teaching Loan Incentive Program indicates criticality levels of 3.9 for Chemistry and 3.8 for Physics. A criticality level of 3.0-3-9 demonstrates a moderate shortage and 4.0-4.9 demonstrates a critical shortage. Shortages of teachers in Chemistry and Physics have affected rural schools more than urban schools. School districts are hiring teachers who are not certified in these areas. And, enrollment growth and retirements are exacerbating the problem. UVSC officials believe that with the addition of the proposed composite emphases, the Departments of Chemistry and Physics are likely to attract new students who may be interested in teaching in these fields.

Enrollments and Requirements. The Department of Education, Child and Family Studies compiles a list of prospective students and their areas of interest. The list suggests that approximately 10 to 15 students could be admitted annually to the baccalaureate program and the proposed composite emphasis. The estimate is consistent with that reported by other teacher preparation programs in the USHE. The proposed course of study would include 36 credit hours of general education, 30 credit hours of secondary education, and 52 core credits in Chemistry and Physics in the 124 credit-hour program.

Faculty. Regular and contract faculty would be used to teach the courses. Regular faculty would be assigned to content courses while contract faculty would cover the general education courses. Each faculty would be assigned three hours of advising time per week. If enrollments increase, additional faculty would be needed. The Departments expect to need .80 percent of a full faculty lines in years two through five and a quarter time hourly faculty in each year of years two through five.

Curriculum. While UVSC is the only USHE institution proposing to offer a composite in Chemistry/Physics in secondary education, the curriculum for the proposed program is similar to that offered by the other USHE teacher preparation programs. In addition, State guidelines were used to develop the new emphasis so that standards set by the Utah State Board of Education would be met.

New Courses. New students will be absorbed into existing course sections. However, three new courses would be added. Chemistry 4200, Teaching Methods in Science, examines objectives, instructional methods, and curriculum for teaching science in secondary schools.

Students will work on developing, adapting, evaluating, and using strategies and materials to teach biological and physical sciences. Chemistry 4200 explores special needs of the learners and characteristics specific to the science discipline. Physics 3010, Physics Experiments for Secondary Education, will address pedagogical methods for student physics laboratory exercises and demonstrations. This course reviews commercial laboratory equipment that is currently available for teaching physics and covers methods for building inexpensive demonstrations and laboratory exercises. Physics 3010 would provide training in the safe and effective use of lab equipment. Physics 3040, Modern Physics for Secondary Education, addresses topics of spacial relativity, development of quantum mechanics, physics of the atom, elementary solid state physics, and elementary particle physics. The new courses would be taught by current contract faculty only once each year.

Library and learning Resources. Classroom, laboratories, and library resources are in place.

Funding and External Approval. Three new courses would be taught by regular and adjunct faculty. College officials have stated that tuition income is sufficient to cover the cost of hiring adjunct faculty. Currently, approval for the Chemistry/Physics Education Emphasis in Secondary Education is being sought from the Educator Development Advisory Committee. Once approval has been given, a recommendation will be forwarded to the State Board of Education. If the approval process is successful, the College expects to begin the proposed program in the Fall of 2002. The institutional Board of Trustees approved the emphasis program.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents review the University of Utah proposal to offer an Instructional Design and Technology Emphasis as part of its Master's Degrees in Educational Psychology and Utah Valley State College proposals to offer Secondary Education Emphases and Certification Programs in History Education, Mathematics Education, and Chemistry/Physics Education, raise questions, and, if satisfied, approve the Consent Calendar contingent upon approval by the Utah State Board of Education for the Utah Valley State College Emphases and Certification Programs. The University of Utah Emphasis proposal is not an endorsement certification program and does not require approval by the Utah State Board of Education.

Cecelia H. Foxley, Commissioner

CHF/PCS

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: The Biennial Assessment and Accountability Report - 2002

Report

The Biennial Assessment and Accountability Report for 2002 contains data gathered by the institutions and the Commissioner's Office in four major areas: student learning and instructional quality, efficiency and effectiveness of degree completion, faculty productivity, and access to higher education. The student learning and instructional quality section includes pass rates on national and statewide certification and licensure examinations and enrollment and graduation data in high demand fields. Statistical analysis on comparative data between years 1999-00 and 2000-01 indicates that 90 percent or more of Utah students passed 74 percent of the certification and licensure examinations for which scores were available. With the exception of one institution, Utah students met or exceeded national norms on the Graduate Record Examination (GRE), the Law School Admission Test (LSAT), and the Medical School Admission Test (MCAT) at institutions where scores were received. Enrollments in high demand fields of computer science, engineering and technology, nursing, and education rose modestly; the effect of S.B. 61 on enrollments in computer science and engineering and technology is still too early to assess. The Utah Department of Workforce Services data on placements of graduates and the number of openings in these fields will be available later this year. Data on the nursing shortage also will be available this year.

A study of the efficiency and effectiveness of degree completion revealed that with the exception of the Associate of Arts Degree, all other degree programs demonstrated a modest decline in the number of credits to graduation. Faculty productivity most often met and exceeded Regents' standards with faculty teaching eleven percent more student credit hours than in the previous year. A study of access to higher education in the eleven Utah counties with the lowest college attendance revealed that attendance rose in six and declined in four. One stayed the same. All of these counties are without a college campus within county lines.

Overall, the Utah System of Higher Education institutions performed well in the four areas covered by the report. Issues that the system needs to address are found in the

recommendation section of the report. The serious FY 2002 and FY 2003 budget cuts are sure to impact future performance in these four areas.

Commissioner's Recommendation

It is the recommendation of the Commissioner that the Regents review the attached report, raise questions, make suggestions for future reports, and accept the Biennial Assessment and Accountability Report for 2002. It is also recommended that the impact of the FY 2002 and FY 2003 budget cuts be included in the next accountability report.

Cecelia H. Foxley, Commissioner

CHF/PCS
attachment

BIENNIAL ASSESSMENT AND ACCOUNTABILITY REPORT 2002

Introduction

The Utah System of Higher Education (USHE) and the State Board of Regents (SBR) are committed to being fully accountable to the people of Utah, the Utah Legislature, the Governor, and the many stakeholders who support and participate in Utah's public higher education system. The Biennial Assessment and Accountability Report 2002 highlights major findings of performance indicators for the academic year 2000-2001.

The Biennial Assessment and Accountability Report 2002 is a demonstration of the Regents' commitment to accountability as stated in their Master Plan 2000.

> *The Board of Regents will be accountable to the people of Utah by reporting on education efficiency, effectiveness, and the quality of student learning outcomes.*

The performance measures below provide comparative data for measuring improvement in student learning and institutional performance. They also provide management information that supports USHE's efforts to become more effective and efficient in the delivery of higher education. The performance measures include four broad categories, with eight subcategories, that were agreed upon by legislative representatives, institutional representatives, and the Commissioner's Office. These include: student learning and instructional quality, efficiency and effectiveness of degree completion, faculty productivity, and access to higher education.

Performance Measures

Educating students is the core mission of the USHE. Performance indicators in higher education should have three major characteristics: (1) They should be tied primarily to student learning. (2) They should provide management information that guides the system towards improvements. (3) They should provide benchmarks against which to compare system performance over time.

Student Learning and Instructional Quality

The "Student Learning and Instructional Quality" indicator is demonstrated in four sub-categories: Pass Rates on Professional Certification and Licensing Examinations; Pass Rates on the Graduate Record Examination, the Law School Admission Test, and the Medical College Admission Test; the General Education Pilot Assessment; and Graduates in High Demand Fields.

1. Pass Rates on Professional Certification and Licensure Examinations

Student performance on licensure examinations is one measure of how well students are being prepared. How well they perform once they are on the job is a more powerful indicator of preparation. At this time, financial realities preclude collection of work performance data on recent graduates. Thus, test scores become a proxy for this information.

General agreement was reached among USHE stakeholders that a benchmark of student preparation is the percentage of tests in which 90 percent or more of the test-takers pass, or, in the case of the Certified Public Accounting (CPA) examination, the percentage of students who score above the national average of 27.7. In 2000, 77 percent of the examinations were passed by 90 percent or more of the test-takers. In 2001, with an overall increase of 24 percent in the number of test takers (940 students), 74 percent of the examinations were passed by 90 percent or more of the test-takers. Given the addition of 940 test-takers, the decline is insignificant. In addition, other factors may interfere with student success on a particular exam, such as test anxiety, illness, and other personal problems. The decline, though insignificant, also may be due partially to data gathering issues. Some test agencies do not send student scores to the institutions. In many cases the institutions are not told if the score represents the first, second, or third try for the student, although the number of times a test is taken does not necessarily correlate to test-takers' competence in the work place. Some fields require test-takers to pass an examination in order to practice, such as medicine, nursing, engineering, and accounting. However, USHE students, like those across the country, continue to struggle with the Certified Public Accountant (CPA) examination. Although on average the percentage of University of Utah students who passed the CPA examination was above the national average of those passing the first time, most test-takers must take the examination multiple times before they are able to pass.

The Regents will continue to track student progress on these certification and licensure examinations. (See Attachment 1, page 9).

2. Pass Rates on the Graduate Record Examination (GRE), the Law School Admission Test (LSAT), and the Medical College Admission Test (MCAT)

While all academic and applied technology education programs require in-class examinations, not all lead to a state or national examination requirement. However, special graduate and professional examinations are required by graduate, law, and medical schools. Attachment 2 demonstrates the number of students taking these tests and the comparison scores between 1997-98 and 1999-2000. Average national scores are included. Attachment 2 indicates that most Utah students in 1999-2000, and for whom there are data, performed at or above the national average on all three national tests. Thirty percent fewer students took the GRE in 1999-2000. Students from the University of Utah, Utah State University, and Weber State University raised their scores on the GRE while students from Southern Utah University (SUU) demonstrated a decline. Even so, Utah students scored well above the national average on all parts of the GRE. While almost nineteen percent fewer students from the University of Utah took the LSAT examination, both the University of Utah and Southern Utah University students scored at or above the national average. The number of students from the University of Utah who

took the MCAT in 1999-00 rose by 23 percent. Those taking the MCAT scored above the national average on all parts of the examination. Scores from both the LSAT and MCAT are available to the institutions under two conditions: 1) students give permission to release their scores to their institutions; and 2) there is an official designated test representative on campus. Not all campuses meet the second condition. (See Attachment 2, page 10).

3 General Education Pilot Assessment

The Statewide General Education Taskforce directed a faculty-led assessment of four courses taken by most students in their first two years of higher education. The purpose of the assessment was to answer the question, "How do we know that students are learning in these classes?" The General Education Taskforce had spent several years in assisting system-wide faculty to arrive at common goals, or competencies, that are shared by the individual disciplines across the system. In the Spring of 2001, faculty administered both pre- and post-tests in four courses: Mathematics 1050, Economics 1740, History 1700, and Political Science 1100. The Economics, History, and Political Science courses fulfill the American Institutions requirement as determined by state law. Test items were based on content central to each course.

Researchers assessed the percentage of improvement between pre- and post-tests. In all four courses, data analyses concluded that there was significant learning between the pre- and post-tests; in some instances, student scores indicated a 169 percent improvement. The next assessment of these courses will be conducted in Fall, 2002. Results will be discussed in a subsequent accountability report.

4. Graduates in High Demand Fields

Shortages of trained individuals appear to exist in the fields of engineering, computer science, education, and nursing. The State Department of Workforce Services is gathering data to assess how many positions in these fields are unfilled in Utah. These data may be available later this year. In addition, the Nursing Leadership Forum, a group of nursing deans, directors, and hospital personnel, is collecting data that will address the issue of nursing shortages in Utah. These data will be fully analyzed and available in the Spring of 2002. USHE data indicate that the percentage of graduates in nursing increased almost six percent while enrollments in nursing programs grew only by 12 students between 2000-2002.

Data on the percentage of education graduates who now teach in Utah's public schools have been updated. Utah State Office of Education (USOE) data indicate that of the teachers who graduated with Level I licenses, the provisional license granted to new teachers for a three-year period, 55 percent are now teaching in Utah's public schools. Less than one percent accepted teaching positions in private schools in Utah. Others accepted positions out-of-state or did not enter the field within the first two years of graduation. Earlier data suggested that fewer than 50 percent with Level I licenses actually accepted teaching positions. Data are expected to be updated later this year. Attachment 3 (p.11) shows that the number of persons enrolled in teacher preparation programs has increased two percent between 2000-01 and 2001-02.

Enrollments in computer science and engineering have grown, presumably, with the incentives provided by S.B. 61, "Enhancements to the State Systems of Public and Higher Education." The statistics on enrollments in computer science and engineering require some explanation. The University of Utah, Utah State University, and Southern Utah University accept students into their computer science and engineering and technology programs who meet specific requirements. However, Weber State University and the community colleges accept any student who declares an interest in these fields. Thus, enrollment numbers for these institutions are not comparable to those of the other USHE institutions. While it is important to know how many students are either majors or interested, of more importance is the number of graduates prepared to practice in these fields.

Findings from a comparison of the number of enrollments and graduates in these high demand fields (2000-01, 2001-02) reveal that enrollments in computer science increased by almost five percent in 2001-2002 while those in engineering grew by three percent. The numbers of graduates in computer science were almost even between 1999/2000 and 2000/01. The number of graduates in engineering between the same period declined almost three percent. However, the legislative initiative (S.B. 61) to increase the number of graduates in engineering and computer science went into effect during the 2001-2002 academic year. The number of students who will take advantage of the tuition loans is expected to grow as more students become aware of the opportunities afford by S.B. 61. The Regents will continue to track enrollments and graduation data. (See Attachment 3, page 11).

Efficiency and Effectiveness of Degree Completion

The State Board of Regents is committed to graduate its students as efficiently as possible. Native students, those who commence and complete their studies at the same institution, pursue a bachelor's degree with a minimum of 120 to 126 credits. Students pursuing an associate's degree take a minimum of 60 to 69 credits to completion. Transfer students, those who begin their studies at one institution and complete them at another, typically require additional credits, particularly when students have not completed an associate's degree, although much has been done to facilitate transfer throughout the USHE. Attachments 4 and 5 indicate the average number of credits to graduation. In addition, an efficiency rating was calculated to demonstrate the percentage of credits accumulated. The ideal score, which is the lowest number of credits taken (60 or 120), is "1."

5. **Graduation Efficiency: Bachelor's Degree Completion**

While credits to graduation vary among institutions, the system as a whole decreased four-tenths of a credit to graduation. Native students realized a decrease of six-tenths of a credit while transfer students realized a decrease of two-tenths of a credit, the first decreases realized by the system in several years. This is especially important in light of student behavior: they change majors, work part- or full-time while attending school, and take additional courses to become marketable in today's uncertain work place. At the same time, the institutions continue to address barriers to timely completion of educational goals by reducing bottleneck courses,

improving academic advising, and strengthening course articulation among institutions to facilitate transfer. However, during the next year the impact of budget cuts upon degree completion will need to be assessed.

Regents' policy (R465) facilitates transfer between and among institutions, particularly for students who complete their general education requirements at one institution and transfer to another. These students can move directly into their third year of study if they plan carefully and enroll in elective courses that apply to a baccalaureate major of their choice. As the findings indicate, the USHE has made gains in transfer efficiency. Currently, the Chief Academic Officers are engaged in a project that will list collections of courses, called emphases or specializations, that are available among lower-division courses at community colleges and that may apply to majors in the four-year schools. These will be listed on the AdviseUtah Website so that students can be properly informed as they make course choices during their first two years of undergraduate study. As the emphases and specializations are identified and listed on the AdviseUtah Website, the USHE can expect to see even greater efficiency as students transfer from two-year to four-year programs. In addition, a transfer guide, which shows how each course transfers to other institutions, is included on the AdviseUtah Website.

The Office of the Commissioner may want to study the issue of the divisor used to calculate graduation efficiency. Currently, the divisor represents an ideal number of credits required for a baccalaureate degree (120 credits). Few students earn only 120 credits. The reality of timely completion may also mean that the divisor is raised slightly to reflect course taking patterns and academic requirements. However, this adjustment will not preclude institutional responsibility for managing time to graduation. Attachment 4 demonstrates credits to graduation for both native and transfer students in baccalaureate degree programs along with efficiency ratings. (See Attachment 4, page 12).

6. **Graduation Efficiency: Associate Degree Completion**

Marginal gains were made in reducing the number of credits to graduation for the associate degree, except for the Associate of Arts Degree which saw an increase of 1.2 credits. An associate degree generally requires a minimum of 60 to 69 credits for completion. The reality for associate degree students is the same for baccalaureate students: they change direction in their studies, work part- or full-time while attending school, and take additional courses to become marketable in today’s uncertain work place.

Attachment 5 shows a comparison of the number of credits and efficiency ratings for all associate degrees in1999/00 and 2000/01. While the number of credits students took fluctuated within individual associate degrees, general decreases in the number of credits were realized. The Associate of Applied Science dropped by five-tenths of a credit while the Associate of Science dropped by six- tenths of a credit. These gains may appear minimal. However, associate degree students in state colleges and universities often enroll simultaneously in upper-division courses which inflate the number of credits to graduation. Thus, declines in number of credits to graduation may reflect efforts by the institutions to be more efficient. The Office of the

Commissioner may want to assess the accuracy of the divisor (60 credits -AA, AS and 69 credits - AAS). (See Attachment 5, page 13).

Faculty Productivity

The Regents approved standard weekly teaching contact and credit hour loads for full-time faculty at universities, state colleges, and community colleges. The standards assure that faculty resources are efficiently and effectively allocated throughout the system. The standards are intended to improve student learning by fostering reliance upon the use of full-time faculty. However, student population growth at the community college level has necessitated the use of additional part-time adjunct faculty.

7. **Faculty Teaching Workload**

The State Board of Regents' standards are based on the type of institution, taking into account its mission. While every institution has as its core mission the education of students, research universities require faculty to spend some portion of their time in research; metropolitan universities require faculty to spend some of their time in scholarly pursuits; and community college faculty are expected to spend most of their time with students. No matter what the institutional mission is, faculty are expected to participate with students in instructional settings. As Attachment 6 demonstrates, in 2001 all faculty generated 1,336,911 student credit hours, an increase of 11 percent over the previous year. (Student headcount for 2001 is 134,939, a 6.8 percent increase over the previous year). Full-time faculty taught 63.3 percent of all student credit hours. Part-time adjunct faculty and graduate students taught 37.7 percent of all student credit hours. The national average for part-time faculty teaching at higher education institutions, as reported by the American Association of University Professors and the National Center for Education Statistics (2001), ranged from 43 to almost 50 percent, the higher percentages found in two-year schools with part-time adjunct faculty teaching in the social sciences and humanities. On average, Utah has kept the proportion of part-time faculty relatively low (33.5 percent). However, use of part-time faculty is a necessity if some institutions, typically community and state colleges located in growing communities, are to meet the demands of expanding student populations and budget shortfalls. Attachment 6 demonstrates the percentage of course work taught by type of faculty at each institution along with the number of credit hours generated by each institution's enrollments. (See Attachment 6, page 14).

Another way to assess how faculty use their time is to compare their weekly contact and credit hours spent with students with the Regents' standards. Attachment 7 demonstrates that faculty at eight of the nine institutions are either meeting or exceeding standards for each type of institution. Utah Valley State College (UVSC) dropped slightly below on contact and credit hours. Involvement in four-year programs has altered faculty responsibilities. Perhaps, the benchmark for UVSC should be reconsidered to reflect its changing mission. (Attachment 7, page 15).

Access to Higher Education

In 1999, Utah Governor Michael O. Leavitt asked that the USHE raise participation rates by ten percent over the next five years among the ten rural counties that traditionally have the lowest participation rates in higher education and no central campus within their boundaries.

8. **Access to Higher Education in Rural Areas**

The State Board of Regents is committed to make public higher education available to all Utahns. Comparisons were made between the years 1999/00 and 2000/01 of the eleven counties with the lowest participation rates. In order to maintain the cohort of ten from 1999-00 for comparison, one county needed to be added because one of the original ten counties was no longer among the lowest ten. In 1999-00, participation among the 18 to 29 year olds ranged from 8.4 to 19.5 percent. During 2000-01, participation among the 18 to 29 year olds ranged from 10.4 to 21.7 percent. All eleven counties experienced growth among their college-age populations. Box Elder's college age population grew by 686. However, college participation rates declined in four counties, and one stayed the same. Uintah, Kane, and Box Elder Counties saw marginal declines in college participation. Duchesne, which grew by almost four percent in its college-age population, lost almost four percent of its college participants. Grand, Tooele, San Juan, Juab, Beaver, and Morgan Counties saw modest increases in college participation. The ability of the USHE to fully serve these counties may be compromised because of the budget shortfall. The Regents will continue to monitor participation rates in these counties. (See Attachment 8, page 16).

Recommendations

The biennial assessment findings provide the State with useful information on how the Utah System of Higher Education is performing in the areas of instructional quality and student learning, graduation efficiency, transfer efficiency, high demand needs, faculty productivity, and educational access in counties without higher education campuses. However, there are additional areas of improvement that the USHE will want to address.

1. General Education assessment will need to be continued if the citizens of Utah are to fully understand the benefits of General Education in college degree programs. Resources to hold faculty meetings and collect and analyze data will be needed to continue this work.

2. Resources to advertise AdviseUtah, the Web-based advising tool now available to all Utahns, are needed if high school, college, returning adult, international, graduate, transfer students, and parent/community members are to take advantage of the wealth of information contained on the Website. In addition, a transfer guide is now on the AdviseUtah Website and will assist students who expect to transfer. Community college emphases will now be listed with all academic and applied technology education major programs. The Website will require monitoring to keep it relevant and up-to-date. Student and community use of the AdviseUtah Website will be tracked.

3. The next biennial report will contain preliminary information on the Utah College of Applied Technology, the 10th and newest institution in the USHE. Data on student participation, faculty workload, and transfer will be gathered and reported.

4. Legislators and educators have raised questions regarding concurrent enrollment, its quality, and if students enrolled in concurrent enrollment actually complete their degree programs with fewer credits. A longitudinal study that tracks concurrent enrollment students from high school graduation through college graduation should be undertaken.

5. The next biennial assessment and accountability report ought to include information on what the USHE institutions did to accommodate the State's budget shortfall. Budget cuts will impact each institution and may affect student learning.

6. Use of part-time adjunct faculty may be cost-effective, particularly for community and state colleges with community college missions, but does it impact the quality of instruction? Resources are needed to address this issue.

7. As Utah’s demographics change and more persons of diverse ethnic and racial origins seek higher education within the USHE, the institutions need to find more effective ways to identify these students and track their educational progress. The USHE will evaluate different methods for proper identification and tracking. Inclusion of these data is planned for future reports.

8. A subsequent accountability report will contain data gathered from the Utah Department of Workforce Services on positions filled and open in the high demand fields of computer science, engineering and technology, teaching, and nursing. Other data sources will be available on the latter two fields. Some assessment will be made on the relative success of S.B. 61.

9. Statistical analyses should be conducted to determine the number of credits needed for graduation by degree. Current numbers, 120 for a baccalaureate and 60-69 for an associate degree, may be idealistic without basis in the reality of academic requirements and student course-taking patterns.

Biennial Assessment and Accountability Report 2002

See Attachments below

See Attachments 1 through 8 below

ATTACHMENT 1

Pass Rates on Professional Certificates and Licensure Examinations by Percent
2000 and 2001

Exam	Number		U of U		USU		WSU		SUU		Snow		Dixie		CEU		UVSC		SLCC	
	00	*01*	*00*	*01*	*00*	*01*	*00*	*01*	*00*	*01*	*00*	*01*	*00*	*01*	*00*	*01*	*00*	*01*	*00*	*01*
Comm. Disorders	42	25	91	100	95	96														
Foods/Nutr.Diete.	19	22	100	80	100	100														
Engineering	277	300	100	82	100	97														
Law Utah Bar	94	102	89	95																
MD License	101	95	100	97																
Nurse Practitioner	6	26	100	100																
Nurse RN Lic.	523	666	93	90	85	94	85	83					NA	100	86	80	85	91	90	92
Nurse Midwife Lic.	4	12	100	92																
Nurse Prac. PN	551	470			100	100	96	98			100	100	100	100	88	89	92	94	97	96
Nurse Assistant	68	227							100	100	NA	83	91	83						
Medical Lab.Tech.ASCP	2	2																	100	50
Medical Asst. CMA	12	3																	100	66
Phy. Assis. Lic.	31	32	97	88																
Phy. Therapy & Asst.	39	26	100	100																
Occupa.Ther.Asst.	16	12																	88	92
Pharmacy Lic.	34	44	100	100																
Therap. Recreation	27	27	100	100																
Acc. Rec Tech.HIT	10	10					90	90												
Radiography	NA	79					NA	95												
Cln..Lab.MLT/CLT	15	23					93	96												
Clin. LabMT/CLS	16	11					75	97												
Den.Hyg.Na. Brd.	41	75					97	100					92	100			100	100	100	100
Den. Hyg.Reg. Brd.	50	43					91	100											100	100
Paramed. Certif.	38	46					97	100					90	100						
Radio. Prac. Asst.	NA	12					NA	100												
Radio.Tech.Na.other	65	23					100	100											100	100
Medical Sonograph	9	42					100	100												
Resp.Ther. CRT	24	21					80	81												
RRT Written	5	6					100	100												
RRT Clinical Sim.	NA	6					NA	83												
Radiation Therapy	11	32					100	92												
Radio. Tech MRI	15	17					100	100												
Radio. Tech CT	19	16					100	100												
Nuclear Med.Certif.	5	15					100	100												
Prof. Human Res.	NA	13			NA	91														
Comp. A+ & CNA	16	21							100	100	NA	100								
CISCO&Microsoft	NA	4									NA	100								
CPA Exam 1st	NA	111	NA	27.9	NA	25	NA	20	NA	14.5										
Criminal Just.POBC	59	95																	100	100
Criminal Just.Res. Train	70	86																	96	99
Cosmetology	87	104									100	82			NA	100			95	99
Pharmacy Tech.	5	4									83	75								
Auto ASE	74	35							100	100			80	97			93	NA		
Pro. Flight (all)	598	156											100	100			100	96		
EMT	266	382											100	88			85	98	89	94
Res .A/C & Heat	5	2															100	50		
Lt.Comm. A/C & Heat	6	3															67	0		
Comm. Refrigeration	8	1															63	100		
EPA Refrig. Handling	35	13															86	77		
Firefighter I	361	473															89	91		
Firefighter II	NA	323															NA	93		
Inspectors Lic.	17	15															94	94		
Apprt. Elec.& Plum	47	222							100	NA			100	72			90	NA		
Architec. CDT	18	14																	89	64
Contractors Lic.	45	36															95	90	100	100
Lineman Fed.&1,2,3	28	173															100	89		
Total Count	3914	4854																		

Source: USHE Institutional Research Directors.

ATTACHMENT 2
Pass Rates on Graduate Record Examination (GRE), Law School Admission Test (LSAT), and the Medical College Admission Test (MCAT) with National Comparisons
1997/98 and 1999/00

	U of U		USU		WSU		SUU		USHE Average Score		National Average Score	
GRE *	**97/98**	**99/00**	**97/98**	**99/00**	**97/98**	**99/00**	**97/98**	**99/00**	**97/98**	**99/00**	**97/98**	**99/00**
Number taking exam	256	194	256	211	48	18	33	33	593	456	NA	9875
Verbal Score	487	497	485	489	472	480	473	458	484	490	478	472
Quantitative Score	583	593	609	616	531	575	550	506	588	597	562	555
Analytical Score	590	623	596	613	548	595	578	557	589	612	565	578
LSAT **												
Number taking exam	352	297					NA	29				
Over all score	154.4	154					150	151			151	151
MCAT **												
Number taking exam	181	223										
Verbal Score	8.6	8.5									7.8	7.8
Physical Sci.Score	9.1	9.2									8.2	8.2
Biological Sci. Score	9.5	9.5									8.4	8.3
Writing Score	14.4	NA									14.0	NA

* UVSC GRE results could not be released because of insufficient numbers.

** LSAT and or MCAT scores are not avaliable unless students give permission to release the scores and the institution has designated an official test representative.

Source: USHE institutional reports on test scores obtained from the Educational Testing Service (GRE), Association of American Medical Colleges, Medical College Admission Test Section (MCAT),and the Law School Admission Council (LSAT).

ATTACHMENT 3
Enrollments and Graduates in Computer Science, Engineering, Teaching, and Nursing
2001 and 2002

	High Demand Occupations	Associate Degrees		Bachelors Degrees	Masters Degrees	Doctoral Degrees	Total Degrees	Total Enrollments	
		AAS	AA/AS				00/01	00/01	01/02
U of U	Computer Science			71	7	2	80	321	318
	Engineering & Tech.			213	68	30	311	1054	1151
	Education			90	174	20	284	838	731
	Nursing			141	63	4	208	505	509
USU	Computer Science			197	66		263	426	470
	Engineering & Tech.			194	71	7	272	626	701
	Education			404	189	15	608	1705	1825
WSU	Computer Science	3	44	173			220	753	837
	Engineering & Tech.	21		80			101	597	604
	Education			207	40		247	898	906
	Nursing	181	82	66			329	527	554
SUU	Computer Science			32			32	99	91
	Engineering & Tech.			15			15	15	45
	Education			300	95		395	861	878
SNOW	Computer Science	4	17	0			21	118	139
	Engineering & Tech.		21				21	61	82
							0		
	Nursing		15				15		
DSCU	Computer Science		40	0			40	283	313
	Engineering & Tech.		10				10	57	54
	Education						0	0	0
	Nursing	9					9	10	15
CEU	Computer Science		2				2	25	24
	Engineering & Tech.	5	11				16	154	99
							0		
	Nursing	25	22				47	58	70
UVSC	Computer Science	15		31			46	534	590
	Engineering & Tech.	39					39	245	196
	Education			51			51	118	188
	Nursing	73					73	190	172
SLCC	Computer Science	14	43	0			57	1367	1321
	Engineering & Tech.	18	45				63	943	949
							0		
	Nursing	118	60				178	238	220
USHE							**99/00 - 00/01**		
	Computer Science	36	146	504	73	2	**754 761**	**3926**	**4103**
	Engineering & Tech.	83	87	502	139	37	**871 848**	**3752**	**3881**
	Education	0	0	1052	498	35	**1579 1585**	**4420**	**4528**
	Nursing	406	179	207	63	4	**811 859**	**1528**	**1540**

Source: IPEDS 1999-00 and 2000-01 (degrees) and USHE Fall Third Weed Extract Files 2000-01 and 2001-02 (enrollments).

ATTACHMENT 4
Graduation Credit and Efficiency Ratios for Native and Transfer Students - Bachelor's Degree
1999/00 and 2000/01

	All Students				Native Students				Transfer Students			
	Ave. Credits		* Rating		Ave. Credits		* Rating		Ave. Credits		* Rating	
	99/00	00/01	99/00	00/01	99/00	00/01	99/00	00/01	99/00	00/01	99/00	00/01
U of U	140.0	141.3	1.17	1.18	137.6	138.4	1.15	1.15	142.3	143.9	1.19	1.20
USU	143.0	141.7	1.19	1.18	138.6	138.1	1.16	1.15	148.5	146.3	1.24	1.22
WSU	142.7	144.3	1.19	1.20	137.7	139.7	1.15	1.16	151.5	152.5	1.26	1.27
SUU	151.4	147.7	1.26	1.23	145.0	143.9	1.21	1.20	155.9	151.1	1.30	1.26
DSC	NA	138.7	NA	1.16	NA	NA	NA	NA	NA	138.7	NA	1.16
UVSC	151.3	145.9	1.26	1.22	146.1	141.4	1.22	1.18	160.1	152.6	1.33	1.27
USHE	142.8	142.4	1.19	1.19	138.9	138.3	1.16	1.15	147.5	147.3	1.23	1.23

* Rating is the average credits taken by graduates, divided by the number of credits (120) required for the degree

Source: USHE Graduation Extract Files 1999-00 and 200-01.

ATTACHMENT 5
Credit and Efficiency Ratios for Community College Graduates - Associate Degrees
1999/00 and 2000/01

	Degree	Average Credits to Graduation		Efficiency Rating*	
		99/00	00/01	99/00	00/01
USU	AAS	98.1	107.7	1.42	1.56
	AS	84.5	85.2	1.41	1.42
WSU	AA	82.7	86.0	1.38	1.43
	AAS	97.5	102.1	1.41	1.48
	AS	81.8	82.5	1.36	1.38
SUU	AAS	121.3	108.0	1.76	1.57
	APE	99.2	0.0	1.46	0.0
SNOW	AA	73.0	74.4	1.22	1.24
	AAS	73.9	70.8	1.07	1.03
	APE	102.2	92.2	1.50	1.36
	AS	69.9	70.1	1.16	1.17
DSC	AA	75.8	78.0	1.26	1.30
	AAS	89.7	97.8	1.30	1.42
	APE	91.0	98.0	1.34	1.44
	AS	73.7	75.0	1.23	1.25
CEU	AA	66.3	66.4	1.11	1.11
	AAS	78.6	85.9	1.14	1.24
	AS	60.0	63.7	1.00	1.06
UVSC	AA	83.3	78.7	1.39	1.31
	AAS	95.7	92.1	1.39	1.34
	AS	84.9	78.9	1.42	1.32
SLCC	AA	86.9	89.0	1.45	1.48
	AAS	90.8	90.1	1.32	1.31
	APE	94.3	97.9	1.39	1.44
	AS	77.8	77.0	1.30	1.28
USHE	AA	78.8	80.0	1.31	1.33
	AAS	94.3	93.8	1.57	1.56
	AS	77.4	76.8	1.29	1.28

Source: USHE Graduation Extract Files 1999-00 and 2000-01.

ATTACHMENT 6
Percent of Course Work Taught by Level of Faculty in USHE Institutions, 2001

	Student Credit Hours	Regular Full Time Faculty	Regular Faculty Overload	Part-time Adjuncts	Teaching Assistants
U of U	297,461	70.4%	0.5%	20.4%	8.7%
USU	245,453	57.5%	4.7%	30.8%	7.0%
WSU	175,664	61.1%	9.3%	29.6%	0.0%
SUU	73,611	77.0%	4.5%	18.5%	0.0%
Snow	43,667	70.7%	6.9%	22.4%	0.0%
Dixie	61,247	54.1%	9.6%	36.3%	0.0%
CEU	30,574	70.3%	1.8%	27.9%	0.0%
UVSC	205,106	46.4%	6.2%	47.4%	0.0%
SLCC	204,129	40.9%	6.0%	53.1%	0.0%
USHE	1,336,911	58.2%	5.1%	33.5%	3.2%

Source: USHE 2002-03 Data Book.

ATTACHMENT 7
Average Weekly Contact and Credit Hours Compared to Regents' Standards, 2001 and 2002

	Average Weekly Contact Hours		Regent Standard -R485	Average Weekly Credit Hours		Regent Standard -R485
	00-01	**01-02**		**00-01**	**01-02**	
UofU	10.57	11.23	10	10.99	11.59	9
USU	12.12	11.44	10	11.58	11.04	9
WSU	14.00	14.07	13	12.67	12.58	12
SUU	12.47	12.81	13	12.09	12.48	12
Snow	*23.28	23.40	16 to 19	*17.30	18.10	15
Dixie	16.65	16.73	16 to 19	15.32	15.01	15
CEU	17.90	19.63	16 to 19	15.29	16.87	15
UVSC	15.72	14.61	16 to 19	14.44	13.56	15
SLCC	21.38	17.76	16 to 19	15.87	14.46	15

* Snow South's predominantly ATE mission raises hours significantly.

Source: USHE 2002-03 Data Book.

ATTACHMENT 8
Comparison of College Attendance in Eleven Counties with Low Participation Rates
1999/00 and 2000/01

*County	College-Age Population 18-29		Student Head Count 18-29		Participation Rate	
	99/00	00/01	99/00	00/01	99/00	00/01
Grand	1,573	1,591	132	166	8.39%	10.43%
Tooele	7,317	7,430	865	873	11.82%	11.75%
Uintah	4,757	4,903	621	610	13.05%	12.44%
Kane	1,213	1,273	183	173	15.09%	13.59%
Summit	4,599	4,653	698	698	15.18%	15.00%
San Juan	2,659	2,749	415	422	15.61%	15.35%
Juab	1,478	1,518	256	266	17.32%	17.52%
Beaver	1,143	1,202	213	215	18.64%	17.89%
Duchesne	2,878	2,982	548	461	19.04%	15.46%
Morgan	1,591	1,607	308	349	19.36%	21.72%
Box Elder	7,689	8,375	1499	1,475	19.50%	17.61%

* Excluding counties with USHE institutions.

Source: State of Utah Economic & Demographic Projections (county populations) and USHE Fall Third Week Extract Files 1999-00 and 2000-01 (head counts).

MEMORANDUM

March 5, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: 2001-2002 Tuition Discussion – Public Hearing

On November 30, 2001, the Board approved a preliminary first-tier tuition increase of 3 percent for all USHE institutions for 2002-2003, with the understanding that a final increase would be decided with student input when more information about the state revenue situation became available.

Because tuition is dependent in part on the amount of state funding received, and because the agenda is being mailed on the final day of the 2002 Legislative Session, recommendations on tuition increases will be hand-carried to the Board meeting.

Cecelia H. Foxley, Commissioner

CHF:jc

MEMORANDUM

March 6, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: General Consent Calendar

It is the recommendation of the Commissioner that the Regents approve the following items on the General Consent Calendar:

1. Minutes
   A. Approval of the Minutes of the Regular Meeting of the Utah State Board of Regents held January 18, 2002, at Salt Lake Community College in Salt Lake City, Utah

   B. Approval of the Minutes of the Special Meeting of the Utah State Board of Regents held via conference call on February 5, 2002

2. Grant Proposals - Approval to submit the following proposals:

   A. Utah State University – Hamilton Sundstrand, EESP/OCO Cryogenic Link Assembly; $1,333,302. Brett Lloyd, Principal Investigator

   B. Utah State University – USDA-AgrAbility, AgrAbility of Utah; $1,070,468. Rhonda Miller, Principal Investigator

   C. Utah State University – U.S. Department of Education, Training Educators to Work with Children who are Deaf and Hard of Hearing (TEACH-D); $1,500,899. James Blair, Principal Investigator

   D. Utah State University – Lockheed Martin Corporation, Screener Processor Element Quote - Software; $3,237,336. Niel Holt, Principal Investigator

   E. Utah State University – National Science Foundation, Influence of stream-lake interactions on nutrient transport and function of aquatic ecosystems: Modeling, 15N experiments and watershed analyses; $1,008,314. Wayne Wurtsbaugh, Principal Investigator

   F. Utah State University – Hampton University, AIM Phase B/C/D; $5,788,398. John Kemp, Principal Investigator

   G. Utah State University – Lockheed Martin Corporation, Tis Screener Processor Element (Hardware); $5,881,641. Niel Holt, Principal Investigator

H. Utah State University – National Institutes of Health; 1,25D3-MARRS protein and intestinal ion absorption; $1,604,500. Ilka Nemere, Principal Investigator

I. Utah State University – National Institutes of Health, The Enzymes of Microbial Epoxide Metabolism; $1,207,500. John W. Peters, Principal Investigator

J. Utah State University – Defense Advanced Research Projects Agency (DARPA), Semiconductor Ultraviolet Optical Sources (SUVOS); $3,556,181. Linda Powers, Principal Investigator

K. Utah State University – USDA-CSREES-SARE, Implementation of Western Region Sustainable Agriculture Research and Education (SARE) Plan; $2,721,775. V. Phillip Rasmussen, Principal Investigator

3. Gateway Lease Agreement — This item will be hand carried to the Board meeting, pending action by the Board Executive Committee.

4. Executive Session(s) — Approval to hold an executive session or sessions prior to or in connection with the meetings of the State Board of Regents to be held April 19, 2002, at the College of Eastern Utah, to consider property transactions, personnel issues, litigation, and such other matters permitted by the Utah Open and Public Meetings Act

Cecelia H. Foxley, Commissioner

CHF:jc
Attachments

MINUTES OF MEETING
UTAH STATE BOARD OF REGENTS
SALT LAKE COMMUNITY COLLEGE
January 18, 2002

C O N T E N T S

MINUTES
MEETING OF THE UTAH STATE BOARD OF REGENTS
SALT LAKE COMMUNITY COLLEGE
January 18, 2002

Regents Participating
Charles E. Johnson, Chair
Pamela J. Atkinson, Vice Chair
Linnea S. Barney
Daryl C. Barrett
Kim R. Burningham
David J. Grant
L. Brent Hoggan
James S. Jardine
Michael R. Jensen
John B. Norman, Jr.
Jed H. Pitcher
Sara V. Sinclair
Marlon O. Snow
Maria Sweeten

Regents Excused
Jerry C. Atkin
David J. Jordan
Nolan E. Karras
E. George Mantes

Office of the Commissioner
Cecelia H. Foxley, Commissioner
David Buhler, Associate Commissioner for Public Relations
Joyce Cottrell, Executive Secretary
Harden R. Eyring, Executive Assistant
Linda Fife, Director of Academic Programs
Gregory G. Fitch, Associate Commissioner and President, Utah College of Applied Technology
Brad Mortensen, Director of Business and Finance
Chalmers Gail Norris, Associate Commissioner for Student Financial Aid
Phyllis C. Safman, Assistant Commissioner for Academic Affairs
Norm Tarbox, Associate Commissioner for Finance and Facilities
Gary S. Wixom, Assistant Commissioner for Applied Technology Education and Special Projects

INSTITUTIONAL REPRESENTATIVES
University of Utah
J. Bernard Machen, President
David W. Pershing, Senior Vice President for Academic Affairs
Fred C. Esplin, Vice President for University Relations

Utah State University
Kermit L. Hall, President

Stan Albrecht, Provost and Executive Vice President
Patricia S. Terrell, Vice President for Student Services
Deanna Winn, Director of Accreditation

Weber State University
Paul H. Thompson, President

Southern Utah University
Steven D. Bennion, President
Carl R. Templin, Interim Provost
Dorian G. Page, Associate Vice President for Administrative and Financial Services

Snow College
Michael T. Benson, President
Richard White, Vice President for Academic Affairs
Carl Holmes, Snow College South
Kimble Blackburn, Snow College South

Dixie State College
Robert C. Huddleston, President
William D. Fowler, Vice President for Student Services

College of Eastern Utah
Ryan L. Thomas, President
Brad King, Vice President for Student Services

Utah Valley State College
Kerry D. Romesburg, President
Mark Spencer, Associate Vice President for Planning
Douglas E. Warner, Vice President for Finance and Human Resources
Bradley A. Winn, Vice President for Planning, Technology, and Student Services
J. Karl Worthington, Associate Vice President for Academic Affairs

Salt Lake Community College
H. Lynn Cundiff, President
Marjorie Carson, Vice President of Academic Services
Rand Johnson, Interim Vice President of Administrative Services
Judd D. Morgan, Vice President of Student Services
J. Gordon Storrs, Master Planning Coordinator
(A list of other SLCC personnel in attendance is on file in the Commissioner's Office.)

Representatives of the Media
Heather May, *Salt Lake Tribune*

Twila Van Leer, *Deseret News*

Others
Kenneth E. Nye, Program Director, DFCM
David C. Jones, Assistant Attorney General

Chair Johnson called the meeting to order at 9:15 a.m. and welcomed everyone to Salt Lake Community College. He thanked President Cundiff for the well-marked signs and the excellent food. He excused Regents Atkin, Jordan, Karras and Mantes and welcomed Representatives Brad King and Brad Winn. Presidents Hall, Thomas and Thompson were expected to arrive shortly, but they had incurred delays due to the bad weather and highway conditions.

At the breakfast meeting with the SLCC Trustees, mention was made of the honors Regents had recently received. Chair Johnson recognized Regent Jardine for being an Olympic torch bearer the previous day. He noted that President Cundiff had been an Olympic torch bearer in Atlanta, Georgia in 1996. Vice Chair Atkinson and Commissioner Foxley have both been chosen to be Mayors for the Day at the Olympic Village during the Olympics.

Chair Johnson expressed the Board's condolences to Associate Commissioner Buhler on the recent passing of his mother. He noted that former Senator Chuck Peterson had passed away earlier this week. He was a great friend to education and a former member and vice chair of the Board of Regents. Commissioner Foxley pointed out that Senator Peterson was one of the original members of the Board and served as vice chair for 10 years. The Commissioner's Office will send a resolution to his wife, signed by Chair Johnson and Commissioner Foxley.

Institutional Report – Salt Lake Community College Highlights

President Cundiff called attention to the flags around the room which represented the countries from which SLCC students come. He expressed his appreciation for the College's international contingent and the diversity they add to the College, which has a 10 percent minority ratio. The average age for a student of Salt Lake Community College is 25.85 years. President Cundiff said he appreciated the articulation agreements with other institutions; 60 percent of SLCC students transfer to another USHE institution. The remaining 40 percent are enrolled in ATE programs. SLCC has a great number of open-entry/open-exit, competency-based programs. In addition, 60 "blended" courses were offered this fall which combine online and classroom education. President Cundiff said he was pleased with the results of these classes. He noted that Salt Lake Community College has 10 campuses but one College. It is a college of creative faculty, dedicated staff, and talented students which is closely tied to the community.

President Cundiff presented a PowerPoint presentation which depicted various ways in which SLCC is the community's college. At the conclusion of the presentation, he pointed out the

computers which had been set up using wireless technology for the Regents and Presidents to use at their convenience.

Chair Johnson thanked President Cundiff for his presentation. He said the institutional presentations are outstanding and are very enjoyable for the Board. He thanked everyone at the College for their participation and their help.

Chair Johnson briefly reviewed the agenda, noting that all business and discussion would be conducted in the Committee of the Whole.

Board Business

USHE – Authorization to Seek Revenue Bond Financing from 2002 Legislature (Tab A). Regent Hoggan, Chair of the Finance and Facilities Committee, noted that three projects had been approved by the Board for presentation to the Legislature. Snow College has requested that their Multipurpose Center in Richfield be added to this list. Associate Commissioner Tarbox explained that a Multipurpose Center at Snow South had been in the planning stages for many years. The final piece of the financing package is a revenue bond which was accidentally removed a few years ago when the Sevier Valley Applied Technology Center became Snow College South. President Benson said he had been in Richfield the previous week and the project is about 40 percent complete. He said he was very excited about the potential for the facility, which will transform the entire area. **Regent Grant moved approval of the request, seconded by Regent Sweeten. The motion passed unanimously.**

Salt Lake Community College – Campus Master Plan (Tab B). Gordon Storrs, SLCC Master Planning Coordinator, noted that the master plans for the five campuses of the College, which were included in the agenda material, have had no changes since they were last approved. The names of two campuses have changed. The facility formerly called the Applied Education Training Center has been named the Meadowbrook Campus, and the Larry H. Miller Entrepreneurship Training Center has become the Larry H. Miller Campus. The College is considering the possibility of using land set aside as a soccer field for additional parking.

Regent Grant asked Mr. Storrs why master plans were shown for only five campuses and not the entire ten. Mr. Storrs said master plans are only done on campuses for which the land and facilities are owned by the College; the other five facilities are centers or satellites and are leased by the College. Regent Jensen asked about the criteria which distinguishes campuses, centers, and satellites. President Cundiff said the centers would not have all the services of a full campus, such as food service, student advising, etc. Sometimes the number of students at a particular location is the determining factor. Commissioner Foxley said there was no criteria written in Regent policy, but the terms are used consistently across the System. For example, Utah State University has centers throughout the state which are leased rather than owned. Mr. Storrs said the College is planning a

comprehensive review of all the master plans which will include community involvement. The Health Sciences Center at the Jordan Campus is the College's priority project this year.

Regent Grant moved approval of the Salt Lake Community College Master Plan. The motion was seconded by Regent Barrett. Regent Hoggan pointed out that the approval included the name changes as well as the master plans themselves. Vote was taken on the motion, which carried unanimously.

Utah College of Applied Technology – Progress Report

Vice Chair Atkinson, who serves on the UCAT Board of Trustees, said a very diverse group of people serve on the UCAT Board, a majority of whom represent business and industry. She and Chair Johnson represent the State Board of Regents, Janet Cannon and Earl McCain represent the State Board of Education, and the remaining members are from various businesses. The UCAT Board is in the process of defining their mission. They have discussed collaboration arrangements which need to be made between public education and higher education. She referred to Tab C and said the Board had proposed the attached draft changes to Regents' policies R311 and R313. She expressed her appreciation to President Fitch for the long hours he has been working. President Fitch pointed out the typographical error in the last paragraph of policy R311 and thanked Twila Van Leer from the *Deseret News* for calling the error to his attention.

Regent Burningham said he would like to see the policies include a statement about the emphasis on cost, e.g., no cost for public education students and low cost to others. He said he was delighted with the way things are going but he had some suggestions for the drafts which he will share with President Fitch. Vice Chair Atkinson said the second paragraph of policy R311 could be reworded to reflect the opportunities for degrees but with an emphasis on the fact that not everyone needs a degree. Regent Snow said he thought it was critical to make certain that the focus is on partnerships with business and community leaders. Their support is needed to ensure the success of UCAT.

President Fitch said these drafts had been submitted to the UCAT Board for review and recommendations. They have also been submitted to the USHE Presidents for their review and comments. He recognized that UCAT can only succeed by moving in tandem with business and industry and with the other institutions. He expressed his appreciation to members of the Legislative Commerce and Revenue Committee who have been willing to listen, negotiate and look at compromises and options. President Fitch said he had recently addressed the Utah School Superintendents Association regarding WPU (Weighted Pupil Unit) and budgeting. They were very interested and responsive in the "value added" facet of applied technology education. ATE Directors in the school districts have been very good to work with and very responsive. President Fitch said he welcomed any comments from Regents or Presidents.

General Consent Calendar

Southern Utah University – Creation of the School of Applied Science and Technology. President Bennion referred to Tab E and said the University had been undergoing a reprioritization process for the past two years. One of the most important outcomes was that with the development of UCAT, school officials (including faculty) felt it was important for SUU to be in a position to work effectively with the ATE programs on campus and to work closely with UCAT and the regional applied technology college in the area. Their recommendation was the creation of a School of Applied Science and Technology. The SUU Board of Trustees has given their approval for this new development.

Snow College – Approval to name its School of Music the Maurine B. and M. Seth Horne School of Music. President Benson thanked the Executive Committee for their preliminary approval so this could be announced on the Snow Campus on January 7. With the recent $1.5 commitment from the George S. and Dolores Doré Eccles Foundation to the Performing Arts Center, this gift was leveraged by a commitment of $500,000 from Maurine Horne and her family. Because the Performing Arts Center will be named for the Eccles, and in recognition of the Horne family's ongoing support of the College, it was proposed that the School of Music be named in their honor. President Benson said he was very optimistic about the project, which has received good support.

OCHE Monthly Investment Report
UofU and USU Capital Facilities Delegation Reports
Annual Reports on Institutional Discretionary Funds and Auxiliary Enterprises

Minutes. Vice Chair Atkinson called attention to page 21 of the November 30, 2001 minutes and noted that she and Regent Jordan (not Chair Johnson) represented the State Board of Regents on the State Board of Education. Also, under Executive Session(s), the phrase "November 30 or" should be deleted.

Grant Proposals - Approval to submit the following proposals:

A. University of Utah – National Institutes of Health; Structural Biology of HIV Assembly, Budding and Entry; $1,424,433. Dr. Wesley I. Sundquist, Principal Investigator.

B. Utah State University – NASA Johnson Space Center; Floating Potential Measurement Unit; $1,889,475. Charles Swenson, Principal Investigator.

Executive Session(s) — Approval to hold an executive session or sessions prior to or in connection with the meetings of the State Board of Regents to be held November 30 or March 14-15, 2002, at Dixie State College, to consider property transactions, personnel issues, litigation, and such other matters permitted by the Utah Open and Public Meetings Act.

Vice Chair Atkinson moved approval of the General Consent Calendar as corrected. The motion was seconded by Regent Hoggan and carried unanimously.

Legislative Issues

Chair Johnson pointed out that last year the USHE was funded for $605 million, including funding for 91,890 FTE students. During the current fiscal year, the Governor held back and then cut $14,688,000. Presidents were informed of this cut early in the fiscal year so they could respond accordingly. This fall the System received an additional 8632 students who were enrolled in our institutions. The result was a $590 million budget to fund 100,000 students. The Legislature is now asking for an additional $9 million cut. With only four months to completion, this cut effectively becomes $27 million in its impact. This becomes enormous when compared to the previous cuts because it comes so late in the fiscal year. Higher education leaders have asked the Legislature for relief on the $9 million and for flexibility for the Presidents to implement these cuts. The request was well received.

Commissioner Foxley said additional information was in the Regents' folders. The Executive Appropriations Committee approved language late last week to give the Presidents the flexibility they need to implement the cuts. She had expected action to be taken by Executive Appropriations the previous day to provide some relief to both public education and higher education. Instead, they scheduled a special meeting at 8:00 a.m. Monday before the general session begins at 10:00 a.m. The Commissioner urged the Regents and Presidents to let Legislators know the bind higher education is in with an additional cut of this magnitude.

Regent Jardine asked how Presidents can save this much money so late in the fiscal year. Commissioner Foxley referred to the Supplement to Tab D in the Regents' folders and thanked Brad Mortensen, a member of her staff, for gathering the information. Another $26 million is needed to cover new students who are already on our campuses. A proposed bill to bond for the two engineering buildings would help free up cash for programs. Bonding for other projects instead of paying cash would also be helpful. The Commissioner said the Legislature hopes to complete the 2002 budget next week. They will go back and readdress key issues after revenue projections are received in mid-February.

In addition to their meeting at 8:00 a.m. Monday morning, the Executive Appropriations Committee will meet at 2:00 p.m. on January 23, with the appropriations subcommittees meeting at 3:00 p.m. Monday, as well as at 2:00 p.m. on Friday, January 25, and again on Monday, Wednesday and Friday of the following week. Before recessing for the Olympics, the Legislature expects to have the 2003 budget finalized.

Commissioner Foxley asked Associate Commissioner Buhler and the institutional legislative representatives to stand and be recognized. (Most were at the Capitol.) She said the list of bills of interest to higher education (in folders) is updated daily by Harden Eyring. A strategist is assigned to

track each bill on the A, B and C lists. The "A" list shows bills which impact the System as a whole, while the "B" list shows bills of importance but which will impact individual institutions.

Associate Commissioner Buhler said the Legislature was holding an accelerated session, operating under different rules because of the Olympics. Interim committees have been meeting three times a week for the past two weeks to consider proposed legislation. If approved favorably, the bills will go directly to the Rules Committee and the floor of the house in which they are being sponsored; they will not go to a subcommittee in the other house. Mr. Buhler introduced Komron Takmil from the University of Utah, who is higher education's legislative intern this year. He then briefly reviewed the "A" and "B" bills. He commended Harden Eyring for having the patience to go through all the bills, many of which are quite lengthy.

Associate Commissioner Buhler discussed HB 52 which would authorize general obligation bonds for engineering buildings at the University of Utah and Utah State University. Cash that had previously been committed to these projects would then be freed up to help with the state's current fiscal crisis. Commissioner Foxley said this would provide $18 million. Representative King said he thought the Capital Facilities Appropriations Committee had taken this as a source for additional capital facilities. Associate Tarbox said it was being used to balance the current year budget. The bill would provide an opportunity for the two universities to issue bonds at a future date. Representative King said this could also be done with the State Capitol and the Logan Court Building, freeing yet additional funding. President Romesburg said UVSC has a building under construction which has been funded with cash. The same thing could be done with their building, but there has not been a great deal of interest in that option. Chair Johnson reminded everyone that if money were "freed up" which was intended for higher education, there is no guarantee that it would come back to higher education.

Commissioner Foxley thanked Associate Commissioner Buhler and the legislative representatives. She said the Legislators also like to hear directly from the Presidents and Regents.

Master Planning

Following a short break, Chair Johnson called attention to material in the Regents' folders. The "Facts at a Glance" tri-fold has recently been updated. He recommended that Regents carry it with them for convenience. The Questions and Answers tri-fold was used last year in conversations with legislators.

Restructuring Board Meetings. At the suggestion of the Council of Presidents, the Executive Committee met to consider restructuring Board meetings. Chair Johnson referred to the Q&A tri-fold question, "What do you need from the policy makers?" and reviewed the results of the past year. (1) Realignment of funding – little has been accomplished. (2) A funding formula has not been implemented and has been put on hold as a result of the current economic uncertainties. (3) A student advising system (AdviseUtah) will be in place later this year in time for Fall Semester. (4)

Accountability and performance measures, while not complete, are in process. (5) The funding changes have not been accomplished, but they are still a major planning initiative. The other changes cannot be implemented until this is done. The efforts to allow institutions to retain tuition at the institutional level have been successful. (6) Increased efficiencies from consolidation/centralization of services – We have been able to accomplish very little due to limited funding availability. However, an ADP study was undertaken and a report was made to the Board in November. (7) ATE – This recommendation was accomplished with the establishment of the Utah College of Applied Technology (UCAT).

Chair Johnson gave a PowerPoint presentation on SBR Planning Issues. Copies were placed in the Regents' and Presidents' folders. The presentation focused on the following issues: Impacts of the convergence of higher growth and reduced resources, efficiency issues, quality issues, and other issues including UCAT, higher education/public education issues, governance and system structure issues, lack of meaningful funding going through the Board of Regents, adequate financial aid, and public awareness. From this discussion, Chair Johnson asked the Regents and Presidents to determine their top five planning issues and return them to Commissioner Foxley as soon as possible.

Enrollment Growth. A question was raised about whether or not taking additional students is actually a cost liability. President Romesburg said he had been hearing that money was driving growth at our institutions. That is not true, he said. We believe in education and in our product and in trying to get that education to the people who want it; that is what is driving the growth. He suggested that UVSC would have been a lot better off without enrollment growth. There was general agreement that the present formula is not the right one. Regent Grant said he thought the formula should be tied to quality.

Tuition. President Romesburg pointed out that the state makes a profit from non-resident tuition. He urged the Board to be careful about tightening residency rules. Regent Snow expressed concern that local resident students are not able to get into certain programs and classes because of the non-resident students in them. Regent Norman expressed his appreciation for the diversity which comes from out-of-state and international students. Those students do much to increase the learning experience for other students.

Bonding. Regent Grant said there was an opportunity during the next 45 days to push through a bonding initiative. We could bond for more projects on a one-time basis such as libraries, technology, and facilities. He pointed out that the Board would not meet again until after the Session concludes.

Image. Vice Chair Atkinson said we need to improve our image with the general public and with public education. This should be one of the most important components of the planning process. Chair Johnson asked that it be added to the "Others" page of the handout.

Chair Johnson said most of these issues are long-range strategies. He asked the Regents and Presidents to sign their names to their list of top five planning issues before they return them to

Commissioner Foxley. The issues need not be ranked. Regent Grant requested the opportunity to reprioritize after the initial results have been received and recorded.

Restructuring Board Meetings

Chair Johnson said the Executive Committee had agreed that this was important. Regents, Presidents and key institutional personnel attended many additional meetings during the master planning process a few years ago. The Executive Committee recommendation, with the concurrence of the Presidents and Commissioner, is that the Board meetings be restructured so that business, including voting issues, be conducted once a quarter. The other meetings will be planning meetings with no action to be taken. This may require more active participation with the Executive Committee between the quarterly business meetings. The benefit for everyone will be more time for extensive planning. Chair Johnson said the Regents are already very busy, and adding extra meetings becomes a burden.

President Machen thanked Chair Johnson and the Executive Committee for their restructuring plan. The scope of issues before the Board is so broad that it is impossible to get quality involvement with the current structure. President Hall agreed, saying that this group needs to do whatever is necessary for higher education in Utah. He thanked the Board for thinking strategically and organizing meetings which will lead to strategic outcomes which the Presidents can then implement. President Cundiff pointed out that our failure to address these issues meaningfully may result in control of higher education being taken by someone else.

Regent Jardine said that prior to serving as a Regent, he served on a Board of Trustees, where members knew what was going on with their particular institution. The Regents' agenda is set by the action items of the committees and does not always offer the opportunity to discuss the most important issues. The Executive Committee hopes that the most important things would rise to the top of the list. During his 2½ years on the Board, the Regents have chosen five Presidents and have undergone an extensive master planning process. He expressed his concern that we still may not have taken on the hard issues very well. Chair Johnson said the Board had discussed tough issues during the master planning process, but it was done outside of official Board meetings. The world moves too quickly to do master planning every ten years.

Regent Grant moved that the Board meeting format be restructured whereby business would be conducted and votes taken on a quarterly basis and that master planning be built into the non-voting meetings, and that the Executive Committee be authorized to handle issues which might need immediate approval, subject to approval of the full Board at the next voting meeting. The meeting was seconded by Regents Barrett and Sweeten.

When asked how other states structured their meetings, Commissioner Foxley responded that each state and each system does their structuring and master planning differently. Like Utah, many states are also facing a downturn in their economy. President Fitch said he had done an analysis in

Idaho, where the governing board was responsible for K-20. The study concluded that the state was spending approximately $52,000 per meeting in travel costs and time lost on campus. As a result of this study, they adjusted their schedules and eliminated unnecessary meetings.

Regent Barrett asked if the committee structure would remain. Chair Johnson said that would not change. Regent Grant asked about the traditional meetings with institutional boards of trustees. Chair Johnson replied that the Regents would still have this interaction. Regent Grant suggested combining the Thursday evening dinner with the breakfast meeting with Trustees in order to allow the Regents more productive time in the meeting. Regent Jardine recommended more conference call meetings to minimize travel time and costs. Regent Grant said telecon-ferencing had worked very well with the Audit Review Subcommittee.

Vote was taken on the motion, which carried unanimously.

Report of the Commissioner

Commissioner Foxley reminded the Regents of the conference call meeting at 2:30 p.m. on Tuesday, February 5. The main issue will be bonding for the Regents' new facility at Gateway. If there is a need for a face-to-face meeting during the Legislative Session, she will let the Regents and Presidents know as early as possible. Regent Grant asked that alternative sites be considered during the Olympics and Legislative Session.

The business portion of the meeting concluded at 11:30 a.m.

Luncheon Presentation and Discussion

Chair Johnson introduced the Board's invited luncheon speaker, Dr. R. Thayne Robson, Director of the Bureau of Economic and Business Research in the University of Utah's David Eccles School of Business. Chair Johnson said he had got to know Dr. Robson by walking the streets of New York with him. He thanked Dr. Robson for the many contributions he has made for the entire state.

Dr. Robson thanked Chair Johnson and Commissioner Foxley for the invitation to speak with the Regents and Presidents about the prospects of the state undertaking a bonding program at a time when revenues are scarce. He and his colleagues had prepared a report on the economic impact of bonding for capital facilities at the request of the Capital Facilities Appropriations Subcommittee. Copies of the executive summary were included in the agenda materials (Tab F); Dr. Robson offered to make copies of the entire report for anyone who was interested.

Interest rates are at the lowest level in many years, which makes bonding very attractive in the current economic situation. Costs of construction have risen a minimum of 30% over the past ten

years. It is good to compare bonding costs with the inflation in construction costs. Borrowing for capital facilities this year would enable Utah to keep abreast of its growth of between 45,000 and 50,000 people each year. This growing population translates into an increasing demand for public services (including education) with a corresponding need for capital facilities.

Dr. Robson said in the past Utah has fared better than the rest of the nation in its economy. However, this year the rates are about the same. With the need to cut the state's budget by over $200 million, bonding is the only way to keep the capital program going. Bonding would also help the economy by keeping construction workers employed. The $4 billion in construction projects – in both transportation and facilities – helped the state to get ready for the Olympics. The construction industry will lose approximately 7000 jobs this year on top of the 3000 jobs lost last year. With the current economic cycle, we could lose 19,000 to 20,000 jobs in the construction industry.

The study looked at the impact of bonding for facilities as compared with bonding for highways. A $100 million bond would make a contribution of $99 million to household incomes in Utah. It would augment current tax revenues by approximately $11 million. The downturn in the current construction industry could last for as much as four or five years. Dr. Robson said the national recession should be over by the middle of this year, but the Utah economy, because of the economic impact of the Olympics, will lag behind the national economy by at least one or two quarters. The study looked at every construction cycle in Utah since 1970. Each one has lasted at least four years. There has been a bigger boom in construction recently because of the Olympics, so this cycle will not be typical. Even after a construction cycle bottoms out, Utah has only a modest upturn for the first couple of years. Dr. Robson said this gives Utah at least a six-year window to look at using bonding for buildings for the benefit of Utah's economy.

Dr. Robson said he recommended bonding where benefits exceed costs, where facilities are needed, and where the facilities make a substantial improvement in the availability or quality of public services. The I-15 reconstruction represents a remarkable improvement in the efficiency of Utah's transportation system. Utah needs to do a better job of communicating to taxpayers and legislators the benefits which come from building new classrooms so that they are reassured that the facilities requested do increase the efficiency and quality of services in the public areas.

The State of Utah spent $120 million on highway construction to create one project. Dr. Robson said he had recommended to the Legislature that the economics of bonding this year are persuasive and that Utah should undertake a significant bonding program. There appears to be increasing support in the Legislature this year for bonding. He offered to respond to questions.

Regent Grant asked if only construction jobs would be impacted. Dr. Robson said initially a $100 million bonding program would create 1578 jobs in the construction industry. Indirect and induced jobs in the entire economy would result in 4051 jobs. Regent Grant asked if the study had considered multi-year bonding strategies. He pointed out that a $100 million bond would not be sufficient for our needs. Dr. Robson said the economic impacts are for the duration of the project being funded. Most projects studied were those which can be completed in a single year. He and his

colleagues discussed the total amount of bonding with the Legislators who requested the study. The resulting "draft subject to review" included a recommendation on the total amount of bonding and the distribution between buildings and highways.

Chair Johnson asked what questions had been asked by the Legislature. Dr. Robson said the Leadership who favored bonding had all been present; the one member who opposed bonding did not attend the meeting. Legislative commitment runs from $300-350 million to zero. He said his best guess would be that we would do well to get the Legislature up in the $200-250 million range. We may have to settle for a $150 million bond. Regent Grant asked about the state borrowing on a multi-year basis so we can get the current low interest rates in the future. Kent Michie said the state bonds only when the projects are ready to go. An organization must have a real project to be built.

President Bennion said 30 years ago the state had bonded for $100 million for higher education facilities. He asked what would be a comparable amount in today's economy. Dr. Robson said a comparable bond now would be approximately $500 million. At that time Utah received a lot of federal matching money.

President Hall commented that Utah seems to be in jeopardy regarding information technology and our ability to administer the institutions efficiently. He asked if computer systems could be subject to the process of bonding, especially when it comes to computer hardware. Dr. Robson said the useful life of computer hardware and software is relatively short. It does not make sense to bond for short-lived equipment. The state could structure a bond for equipment pools on an annual basis so that the state could finance it. Mr. Michie said it would not be practical to have a multi-year bond for equipment which will last for only two or three years. President Hall said the state should be constructing "smart buildings" to accommodate technology. Dr. Robson responded that the newer higher education facilities should have built into them the latest information technology equipment. The University of Utah has one such building.

Vice Chair Atkinson referred to points 2 and 6 on the Executive Summary behind Tab F and pointed out the 30 percent increase of construction costs and 26 percent reduction in employment. She asked the reaction to these facts from the Legislators who opposed bonding. Dr. Robson said prior to the report, the Legislators did not have data on the economic impact of job creation and the economy. To date, Legislators have accepted the understanding that bonding and the economy are tied together.

Chair Johnson asked about the status of the airport project. Dr. Robson said the airport project would cost between $1 billion and $1.7 billion. Contracts with the airlines are not up for renewal until 2003. Airport Authority officials tried to get this project underway earlier as an Olympic event. The airport is an economic center with no public subsidy for the bonding. In 2003 the Airport Authority will negotiate contracts which make it possible to improve the airport when economic conditions improve. The 10-year project in airport improvements will cost 30 percent more by the time it is done. Dr. Robson pointed out that the state also needs a new airport in southern Utah.

President Benson asked, "Apart from North Carolina's $2 billion bond, what strategies are other states using to pursue bonding?" Mr. Michie said he did not know what is going on in other areas. Ultimately it will come down to the budget and how much budget revenues are required to pay off the debt. President Hall said the North Carolina bond had passed as a referendum by 85 percent of the electorate. They have also raised their level of taxation to benefit higher education. Ohio is looking at a $300 million bond, to be distributed among the three research institutions in molecular science and associated areas of research.

Mr. Walthers said the Legislative Fiscal Analyst's office tracks this data. Many states are having rating agencies ask questions about funding ongoing operations as well as bonding. Tennessee is using tobacco money because their legislature does not want to raise taxes. Last year during the power crisis California borrowed $7 billion to pay their power bills. He pointed out that the Governor's recommendation did not include a $100 million bond. Schools who have been successful in getting their capital facilities projects approved are those which demonstrate need rather than by just arguing that a bond is needed. If the Regents were to adopt a list of projects which were critical this year, they would have a much stronger argument than just suggesting that a bond is needed. There is support in the Legislature this year for a bond. Rep. Gerry Adair and Senator Beverly Evans have been very excited at the prospect of bonding. The Capital Facilities Appropriations Subcommittee will make its recommendation on Friday, January 25. He noted that $52 million in projects had been held back.

Chair Johnson said in a recent meeting with Senator Bob Bennett, the Senator had been a little more circumspect about when the economy might turn. He had pointed out that the "rainy day fund" and bonding were tools and advised holding them in abeyance because no one knows exactly when the economy will turn around. Dr. Robson responded that Senator Bennett has a good perspective on Washington and the national level. He is concerned about what is happening to the export piece of the Utah economy and how strongly it will go forward.

Dr. Robson said in spite of the heavy downturn in the information technology sector, Utah is making real progress in terms of engineering education. There are no large corporations headquartered in Utah who are investing large amounts of money in R&D activity. This places a larger burden on higher education than would normally be the case. Dr. Robson recommended that the state put two percent of its budget into research and development at the research universities.

Regent Grant asked, if a $250 bond were passed, how much of it would go for higher education projects? Associate Commissioner Tarbox said higher education has (combined) $200 million of good projects. Chair Johnson said higher education should get the majority of funding after highways have been bonded. The State Capitol is another huge project coming up, which will take $200 million by itself. Mr. Walthers noted that construction stimulates the economy, not bonding, and that Higher Education needs to take a different approach in delivering their message to Legislators. Commissioner Foxley asked what different message would be helpful for the Legislators to hear. Mr. Walthers responded that the Legislators want to hear about fulfilling our building needs, not just asking for a bond. Regents talk about bonding for a specific amount, but the institutions

mention specific projects and demonstrate the need. The Legislature finds this to be a more compelling argument to justify bonding. Higher education's message should be: We don't care how you pay for them, but our needs are these. Dr. Robson said $140 million of general fund money is presently being put into the highway fund. A highway bond could free up that general fund money to be put back into needed facilities.

Dr. Robson thanked Chair Johnson and Commissioner Foxley for the invitation to speak at this meeting. Chair Johnson thanked him again for his presentation.

Commissioner Foxley said the first meetings of the legislative appropriations subcommittees were scheduled for Friday, January 25. Mr. Walthers said this could change on Monday. Executive Appropriations Committee anticipates preparing the Appropriations Act on February 6. After the Olympics recess they will come back and look at it again. Commissioner Foxley said she would let the Presidents and Regents know the dates and times of the legislative meetings when they have been confirmed. Mr. Walthers said the Capital Facilities Appropriations Subcommittee wants to hear every project. Everyone will have equal time to be heard.

Adjournment

Chair Johnson thanked President Cundiff and his staff for their hospitality. The meeting was adjourned at 1:15 p.m.

Joyce Cottrell CPS
Executive Secretary

Date Approved

MINUTES
MEETING OF THE UTAH STATE BOARD OF REGENTS
TELEPHONE CONFERENCE CALL
February 5, 2002

Regents Participating
Charles E. Johnson, Chair
Pamela J. Atkinson, Vice Chair
Jerry C. Atkin
Daryl C. Barrett
David J. Grant
L. Brent Hoggan
James S. Jardine
Michael R. Jensen
Charles E. Johnson
Nolan E. Karras
E. George Mantes
John B. Norman
Jed H. Pitcher
Maria Sweeten

Regents Excused
Linnea S. Barney
Kim R. Burningham
David J. Jordan
Sara V. Sinclair
Marlon O. Snow

Office of the Commissioner
Cecelia H. Foxley, Commissioner
David Buhler, Associate Commissioner for Public Relations
Joyce Cottrell, Executive Secretary
Richard Davis, Deputy Executive Director, LPP
Harden Eyring, Executive Assistant
Brad Mortensen, Director of Business and Finance
Norm Tarbox, Associate Commissioner for Finance and Facilities

Institutional Representatives
University of Utah – President J. Bernard Machen and Senior Vice President A. Lorris Betz
Utah State University – President Kermit L. Hall
Southern Utah University – Vice President Sterling R. Church
Snow College – Diane Martin, Academic Advisor
Dixie State College – President Robert C. Huddleston
College of Eastern Utah – President Ryan L. Thomas
Utah Valley State College – President Kerry D. Romesburg
Salt Lake Community College – President H. Lynn Cundiff

Representatives of the Media

Ashley Broughton, *Salt Lake Tribune*
Vicki Morton, *Ogden Standard Examiner*
Twila Van Leer, *Deseret News*

Others
William C. Evans, Office of the Attorney General
Kelly Murdock, Wells Fargo
Terry Rock, Wells Fargo
Blake Wade, Ballard Spahr
Paul Wozniak, PaineWebber

Commissioner Foxley welcomed everyone to the conference call meeting at 2:30 p.m. She expressed the Board's condolences to Regent Jensen on the recent passing of his father-in-law. Regent Jensen said he and his wife had appreciated the thoughts and flowers.

Chair Johnson asked Secretary Cottrell to call the roll. A quorum was established. Commissioner Foxley excused SUU President Bennion, who was carrying the Olympic torch in Nephi. She also excused Associate Commissioner Gail Norris.

UHEAA – Approving Resolution, SBR Revenue Bonds, Series 2002 (Office Facility Project)

Chair Johnson asked Finance and Facilities Committee Chair Hoggan to lead the discussion of this item. Chair Hoggan said the Gateway facility had been discussed by the Board many times and the bond had been approved by the Student Finance Subcommittee. He referred to the Proposed Structure of the Bond Issue on page 4 of Tab A. The expected rating for the $8.17 million bond is AAA. The Subcommittee recommended a fixed-rate, tax-exempt bond with a maturity date of 2023. The not-to-exceed parameters were set forth on the following page. Kelly Murdock said they expected the overall average interest rate to be between 4.82 percent and 5 percent. Because of the moral obligation backing given by the Legislature to the Regents' bonds, the rating from Standard and Poors for an uninsured, stand-alone issue would be AA. Offers are currently being entertained from two insurance companies.

Richard Davis said we were still negotiating with the two proposers. In order to not be required to set up a debt service reserve, we may covenant to maintain a certain level of cash and covenant to establish a debt service reserve, should we fall below that level. The level of cash reserves expected to be required by the bond insurer is estimated to be between one and two million dollars, which is substantially less than cash reserves normally maintained. Blake Wade explained that the Regents maintain a higher level of reserves to keep liquidity in the short-term note fund as well as the bond indentures. This would take advantage of the money that is already there. As long as the cash reserves are above the required level, we would not have to establish a debt service reserve.

Regent Jensen referred to footnote #1 on page 3 and asked about the leased space. Commissioner Foxley explained that because the Legislature only authorized us to bond for $8 million, we would need to lease additional space in order to get the full space required for our financial aid programs. We are working on a lease agreement program to be brought to the Executive Committee as soon as possible, for ratification by the entire Board in March. Chair Johnson said the financing of the Gateway facility had two components – a bond and a lease. Both were included in the cost evaluation. Regent Jensen asked if we had a sublease arrangement between OCHE and UHEAA at the Triad Center. Commissioner Foxley said there were multiple contracts between floors and even portions of floors. The cost for the Commissioner's Office space as authorized by the Board and Legislature will not increase. We will cover our costs in the new facility with the same funds.

Regent Hoggan moved approval of the bond, with the stipulation that if a more favorable rating can be obtained for insurance premium by adding a covenant for a cash reserve that this be authorized, too. The motion was seconded by Regent Atkin.

Regent Hoggan explained that both the Student Finance Subcommittee and the UHEAA Board have approved the bonds. The facility will be funded by a combination of student loan administrative overhead funds (86 percent) and state funded operation and maintenance costs (14 percent) for OCHE and Board of Regents offices. Regent Grant pointed out that several former Regents are still heavily involved on the UHEAA Board.

Vote was taken on the motion, which carried unanimously.

Draft Proposed Replacement Policy R801, *Equal Opportunity and Nondiscrimination*

Chair Johnson referred to the recent legislative audit of the University of Utah Medical School and to the proposed changes to policy R801, which dates back to 1977. He clarified that the proposed updates were for discussion at this meeting, with further discussion and action to take place at the March Board meeting. The state auditors have asked that the Regents explain the difference between its policies of recruiting minorities and ethnic groups and its admissions policies.

Chair Johnson asked President Machen for a brief review of the issue. President Machen said the UofU Trustees and University officials feel strongly about the admissions process with its many comprehensive aspects. It is patterned after a national admissions program endorsed by the American Association of Medical Colleges. There is no indication of discrimination attached to the policy, nor to the University's practice. The concerns raised in the audit are being studied and addressed by the University. There will be a number of changes in the process used, but President Machen reassured the Regents that Medical School administrators have worked very hard on the practice of admissions in this highly selective program, and they feel very good about it. The editorial in this morning's *Salt Lake Tribune* provided a good understanding of the process and its outcomes.

Chair Johnson said one of the fundamental issues raised in the audit was whether or not there are dual minimum standards on GPA and MCAT scores in that process. President Machen categorically stated that there were no dual standards in the admissions process. He invited all the Regents to read the entire report.

Chair Johnson asked Regent Jardine, the Board's liaison with Health Sciences at the University of Utah, to comment. Regent Jardine said a number of recommendations were made in the audit. One directly related to the Board of Regents, and that was a suggestion that there was an inconsistency and/or confusion between policies of nondiscrimination and policies that encourage diversity. Whether or not this is true, it is a suggestion that must be addressed. Does our current policy need to be updated? If so, it must be done in a way that does not undermine what the Medical School is trying to do.

Chair Johnson pointed out that diversity is part of the Regents' master plan and will continue to be part of our institutions' recruiting process. Regent Jardine said he had some concerns about the language in the proposed draft policy. He suggested that some of the Regents, preferably members of the Academic and ATE Committee, work with the Commissioner's staff on the proposed policy changes. Chair Johnson asked Regent Jardine to chair this group; Regents Jensen and Sweeten also volunteered to serve. Commissioner Foxley said she and Harden Eyring would be working with the group. Assistant Attorney General Evans said he would be happy to participate in the discussion as well. Material will be e-mailed prior to a telephone conference call meeting of the group. The Commissioner asked the Regents and Presidents to let her or Harden know of their concerns and proposed wording. The committee will then prepare another draft for the Board's approval in March.

Legislative Update

Commissioner Foxley referred to the legislative report of the previous week's activities, which was sent to all Regents and Presidents by Associate Commissioner Buhler. Attached to that report was a legislative joint resolution honoring Vice Chair Atkinson in recognition of her long-time service to many groups. Vice Chair Atkinson said it had been an incredible honor to receive this recognition. To hear individual Legislators say personal things about her was a very special honor.

Commissioner Foxley gave special recognition to the Regents who have been so helpful at the Capitol. Chair Johnson and Vice Chair Atkinson are there regularly. In addition, Regents Mantes, Karras, Sweeten, and Hoggan have given reports on issues raised by the Legislative Fiscal Analyst. Hearing directly from the Regents has made a big difference to members of the Higher Education Appropriations Subcommittee. It gives the Legislators an understanding of how involved the Regents are on all of these issues. The Commissioner thanked all Regents for their extra efforts during this Legislative Session.

The Higher Education Appropriations Subcommittee has scheduled an additional meeting at noon on Wednesday, February 6, in the Legislative Fiscal Analyst's conference room. They will be

finalizing their recommendations on the 2003 budget which will be recommended to the Executive Appropriations Committee at 2:00 p.m. Commissioner Foxley noted that the Capital Facilities Appropriations Subcommittee would be holding an additional meeting at noon Wednesday as well. Our most promising hope for funding this year is in the area of capital facilities.

Capital Facilities. Associate Commissioner Tarbox said the signs are good from the Capital Facilities Appropriations Subcommittee. They took action yesterday on several items which affected the Utah System of Higher Education. They are looking at three things during this session: authorization of revenue bonding projects reviewed and approved by the Regents, authorization of non-state funded construction projects reviewed and approved by the Regents, and authorizing and funding a series of state-funded capital development projects. The Subcommittee took action on all three things yesterday. Four USHE revenue bonding projects have been authorized by the Subcommittee for consideration by the full Legislature. Approximately eight non-state funded projects have been approved as well. In addition, they have prioritized a list of 13 state-funded capital development projects, of which 9 are USHE projects. This would necessitate a $168 million bond, which was approved by the Subcommittee. Dr. Tarbox reviewed the state-funded projects, which would be paid with a combination of cash and bonding. There appears to be support for a bond in this range. Commissioner Foxley said the Subcommittee will likely do some fine-tuning of this list.

Regent Barrett asked if the list had been prioritized. President Hall said he had spoken with Senator Beverly Evans, Co-chair of the Capital Facilities Appropriations Subcommittee, who had said the projects had been listed alphabetically. Commissioner Foxley said the Subcommittee would probably prioritize the projects at their next meeting. Regent Grant asked if it was likely that the SUU building would be added. Chair Johnson said he did not expect any additional projects to be added to the list. Even without additional projects, it would be a very large bond for this state. Commissioner Foxley said a bond of this size would accomplish some of the objectives for a stimulus package mentioned by Dr. Thayne Robson at the last Board meeting.

Higher Education. Commissioner Foxley said the Higher Education Appropriations Subcommittee took preliminary action to adopt a $34 million budget recommended by the Legislative Fiscal Analyst (contingent on funding being made available). They also requested that if additional funds are made available after the February 15 revenue projections come in, that higher education be given strong consideration for some of those funds. At the top of the list would be enrollment funding. Others items on the Regents' list of priorities were also included.

The Commissioner said Senator Lyle Hillyard had asked that additional needs be identified for funding consistent with the Regents' priorities. The subcommittee will probably do some fine-tuning in their meeting tomorrow, where they will also deal with intent language.

Commissioner Foxley highlighted some intent language proposed by Utah State University. The USU proposal needs the approval of the State Board of Regents because of its implication on future Regent budget requests. She referred to the single paragraph at the bottom of the last page of

the fax. The Commissioner read the proposed intent language, inserting a sentence so that the paragraph read:

> **"Currently the state higher education budgets are based on the estimated cost of purchasing electricity, natural gas, coal and oil from outside vendors. Institutions that can demonstrate energy cost savings through the installation of cogeneration equipment will be allowed to include the lease purchase cost of that equipment in the annual utility budget requests. Such requests will be in compliance with Board of Regents and State Building Board policies. It is anticipated that the lease purchase cost will be offset by lower energy purchases for electricity and natural gas over the term of the lease purchase agreement. Thereafter, the annual energy cost savings will accrue to the State of Utah."**

Commissioner Foxley asked President Hall to give the background for this request. She said Senator Hillyard was supportive of the language being discussed by the Subcommittee tomorrow, but he realizes that it needs the approval of the Board of Regents as well.

President Hall said the benefit of USU's new heat plant is that it produces additional steam which can be converted to other power. The problem is obtaining the equipment and being assured that the cost of the equipment would be included in the costs associated with utilities. This will be a permanent fixture and will reduce overall costs of energy to the State of Utah. Lease purchase is the only option for obtaining this equipment, and would be paid with the cost savings. Regent Atkin asked the term of the lease. President Hall said it was a 15-year agreement which should generate approximately $13 million in savings.

Chair Johnson pointed out that the Regents had previously approved lease purchases for energy savings. Commissioner Foxley said it was her recommendation that USU's proposed intent language be adopted. **Regent Pitcher moved approval of USU's intent language. The motion was seconded by Regent Atkin and carried unanimously in a roll call vote.**

Pending Legislation. Associate Commissioner Buhler said the House had unanimously passed the proposed changes to the Postsecondary Proprietary School Act to transfer responsibility from the Board of Regents to the Division of Consumer Protection. The New Century Scholarship bill has passed the House and is waiting Senate action. The UESP bill has passed both houses. Legislation authorizing USHE Presidents to move money among line items has passed the Senate and will be considered by the House committee tomorrow. Earlier in the day, Senator Waddoups' bill to restrict funding of any state entity whose policy, rule or action is contrary to law was considered by the Senate State and Local Affairs Committee. They voted unanimously to not take action on that bill. Associate Commissioner Buhler said he had spoken with Senator Waddoups after the meeting, and he indicated he has no intention to revive the bill later, saying he had made his point.

The cigarette and tobacco tax amendment, which would provide additional funding to the University of Utah School of Medicine and the Huntsman Cancer Institute, is before the House. They

may or may not get to it before the Olympics break. Associate Commissioner Buhler pointed out that there were only six hours of floor time remaining before the Olympics recess, and eight legislative days after the Olympics.

President Romesburg asked if someone would be at the Higher Education Appropriations Subcommittee meeting the following day to address the issues raised in the proposed intent language, particularly regarding remedial education and residency. Commissioner Foxley assured the Presidents that she and Chair Johnson would be at the meeting, and their purpose will be to have the Subcommittee agree that these issues are the Regents' responsibility. We are not supportive of this intent language. The Commissioner noted that Vice Chair Atkinson had spoken with the Subcommittee the previous day about the different ways to look at this as a System and as a Board.

Regent Pitcher asked if the Regents could get a copy of the full legislative audit of the UofU Medical School admissions process. Commissioner Foxley said she would send everyone a copy.

Adjournment

Chair Johnson thanked everyone for their time and good work. The meeting was adjourned at 3:34 p.m.

Joyce Cottrell CPS
Executive Secretary

Date Approved

MEMORANDUM

March 5, 2002

TO: State Board of Regents

FROM: Cecelia H. Foxley

SUBJECT: Master Planning Discussion

Since this agenda is being mailed on the last day of the 2002 Legislative Session, materials regarding legislative actions and master planning issues will be hand carried to the Board meeting.

Cecelia H. Foxley
Commissioner of Higher Education

CHF:jc