

# **Coordinating Board for Higher Education**

## **Agenda of Meeting**

**9:00 AM  
Thursday  
June 12, 2008**

**Convocation Center  
School of Visual and Performing Arts  
Southeast Missouri State University (River Campus)  
Cape Girardeau, MO**

## **COORDINATING BOARD FOR HIGHER EDUCATION**

**Kathryn F. Swan**, Chair, Cape Girardeau

**Gregory Upchurch**, Vice Chair, St. Louis

**Doris J. Carter**, Florissant

**David Cole**, Cassville

**Lowell C. Kruse**, St. Joseph

**Mary Beth Luna Wolf**, St. Louis

**Jeanne Patterson**, Kansas City

**Duane Schreimann**, Jefferson City

**Helen Washburn**, Columbia

**TIME:** 9:00 AM  
Thursday  
June 11, 2008

**PLACE:** Convocation Center  
School of Visual and Performing Arts  
Southeast Missouri State University (River Campus)  
Cape Girardeau, MO

# Schedule of Events June 11-12, 2008

## CBHE Work Session and Meeting

### Wednesday, June 11, 2008

2:00 – 5:00                      **CBHE Work Session / Executive Session**  
Missouriana Room, University Center  
Southeast Missouri State University  
One University Drive  
Cape Girardeau, MO 63701

6:30 - ??                         **Dinner**  
Wildwood, SEMO

### Thursday, June 12, 2008

9:00 – 12:00                    **CBHE / PAC Meeting / CBHE Executive Session**  
Convocation Center, School of Visual and Performing Arts  
Southeast Missouri State University (River Campus)  
518 South Fountain Street  
Cape Girardeau, MO 63701

12:00 – 1:00                    **Lunch**

1:00 - ??                         **Continue CBHE Meeting if necessary**

### **Executive Session**

RSMo 610.021(1) relating to “legal actions, causes of action or litigation involving a public governmental body and any confidential or privileged communications between a public governmental body or its representatives and its attorneys.”

RSMo 610.021(3) relating to “hiring, firing, disciplining or promoting of particular employees by a public governmental body when personal information about the employee is discussed or recorded.”

Other matters that may be discussed in closed meetings, as set forth in RSMo 610.021.

Individuals needing special accommodations relating to a disability should contact Laura Vedenhaupt, at the Missouri Department of Higher Education, 3515 Amazonas Drive, Jefferson City, MO 65109 or at (573) 751-2361, at least three working days prior to the meeting.

**COORDINATING BOARD FOR HIGHER EDUCATION  
PRESIDENTIAL ADVISORY COMMITTEE**

**Representatives by Statute**

**Public Four-Year Universities**

Dr. Henry Givens, Jr.  
President  
Harris-Stowe State University  
3026 Laclede Avenue  
St. Louis 63103

Dr. Carolyn Mahoney  
President  
Lincoln University  
820 Chestnut  
Jefferson City 65101

Dr. Bruce Speck  
President  
Missouri Southern State University  
3950 East Newman Road  
Joplin 64801

Dr. Michael Nietzel  
President  
Missouri State University  
901 South National Avenue  
Springfield 65802

(COPHE President)

Dr. John Carney III  
Chancellor  
Missouri University of Science and Technology  
206 Parker Hall  
Rolla 65401-0249

Dr. James Scanlon  
President  
Missouri Western State University  
4525 Downs Drive  
St. Joseph 64507

Dr. Dean Hubbard  
President  
Northwest Missouri State University  
800 University Drive  
Maryville 64468

Dr. Ken Dobbins  
President  
Southeast Missouri State University  
One University Plaza  
Cape Girardeau 63701

Dr. Barbara Dixon  
President  
Truman State University  
100 East Normal  
Kirksville 63501

Dr. Aaron Podolefsky  
President  
University of Central Missouri  
Administration 202  
Warrensburg 64093

Mr. Gary Forsee  
President  
University of Missouri  
321 University Hall  
Columbia 65211

Dr. Brady Deaton  
Chancellor  
University of Missouri-Columbia  
105 Jesse Hall  
Columbia 65211

Dr. Guy Bailey  
Chancellor  
University of Missouri-Kansas City  
5100 Rockhill Road  
Kansas City 64110

Dr. Thomas George  
Chancellor  
University of Missouri-St. Louis  
8001 Natural Bridge Road  
St. Louis 63121

**Public Two-year Colleges**

Dr. Alan Marble  
President  
Crowder College  
601 Laclede Avenue  
Neosho 64850

Dr. Edward Jackson  
President  
East Central College  
1964 Prairie Dell Road  
Union 63084

Dr. Wayne Watts  
President  
Jefferson College  
1000 Viking Drive  
Hillsboro 63050-1000

Dr. Jackie Snyder  
Chancellor  
Metropolitan Community Colleges  
3200 Broadway  
Kansas City 64111

Dr. Steven Kurtz  
President  
Mineral Area College  
5270 Flat River Road  
Park Hills 63601

Dr. Evelyn Jorgenson  
President  
Moberly Area Community College  
101 College Avenue  
Moberly 65270

Dr. Neil Nuttall  
President  
North Central Missouri College  
1301 Main Street  
Trenton 64683

Dr. Hal Higdon  
President  
Ozarks Technical Community College  
1417 North Jefferson  
Springfield 65801

Dr. John McGuire  
President  
St. Charles Community College  
4601 Mid Rivers Mall Drive  
St. Peters 63376

Dr. Zelema Harris  
Chancellor  
St. Louis Community College  
300 South Broadway  
St. Louis 63110

Dr. Marsha Drennon  
President  
State Fair Community College  
3201 West 16<sup>th</sup> Street  
Sedalia 65301-2199

(MCCA President)

Mr. Joe Rozman  
Interim President  
Three Rivers Community College  
2080 Three Rivers Boulevard  
Poplar Bluff 63901

**Public Two-year Technical College**

Dr. Donald Claycomb  
President  
Linn State Technical College  
One Technology Drive  
Linn 65051

**Independent Four-year Colleges and Universities**

Dr. Mark Lombardi  
President  
Maryville University of St. Louis  
13550 Conway Road  
St. Louis 63131

Dr. Marianne Inman  
President  
Central Methodist University  
Church Street  
Fayette 65248

Dr. William L. Fox  
President  
Culver-Stockton College  
One College Hill  
Canton 63435-9989

Dr. Mark S. Wrighton  
Chancellor  
Washington University  
One Brookings Drive  
St. Louis 63130

**Independent Two-year Colleges**

Dr. Judy Robinson Rogers  
President  
Cottey College  
1000 West Austin  
Nevada 64772-1000

## COORDINATING BOARD FOR HIGHER EDUCATION

TIME: 9:00 AM  
Thursday  
June 12, 2008

PLACE: Convocation Center  
River Campus  
Southeast Missouri State University  
Cape Girardeau, MO

### AGENDA

	<u>Tab</u>	<u>Presentation by:</u>
<b>I. Introduction</b>		
A. Call to Order		Kathryn Swan, Chair
B. Confirm Quorum		Board Secretary
C. Welcome from Southeast President		Ken Dobbins
D. Committee Reports		
1. Audit Committee		Duane Schreimann
2. Student Loan/Financial Aid Committee		David Cole
3. Strategic Planning Committee		Jeanne Patterson
<b>II. Presidential Advisory Committee</b>		
A. Final Summary of Legislation 94 <sup>th</sup> General Assembly (2 <sup>nd</sup> Regular Session)	A	Zora AuBuchon General Counsel and Legislative Liaison
B. FY 2009 Budget Update	B	Paul Wagner, Deputy Commissioner
C. Omnibus Bill Update	C	Zora AuBuchon
<b>III. Action Items</b>		
A. Minutes of the April 10, 2008 CBHE Meeting		Kathryn Swan
B. Coordinated Plan Update	D	Paul Wagner
C. Higher Education Funding Task Force	E	Paul Wagner Zora AuBuchon
D. Curriculum Alignment Initiative Update	F	Hillary Fuhrman, Research Associate

	<b><u>Tab</u></b>	<b><u>Presentation by:</u></b>
<b>IV. Consent Calendar</b>		
A. Distribution of Community College Funds	G	Paul Wagner
B. Academic Program Actions	H	Paul Wagner
C. Proprietary School Certification Actions and Reviews	I	Leroy Wade, Assistant Commissioner
D. Update on State Student Financial Assistance Programs	J	Leroy Wade
E. Update on MDHE Proprietary School Program	K	Leroy Wade
<b>V. Items for Discussion, Consideration, and Possible Vote</b>		
A. Update on Educational Needs Analysis	L	Robert Stein, Commissioner
B. P-20 Council Update		Kathryn Swan
C. Report of the Commissioner		Robert Stein

### **Executive Session**

RSMo 610.021(1) relating to “legal actions, causes of action or litigation involving a public governmental body and any confidential or privileged communications between a public governmental body or its representatives and its attorneys.”

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**COORDINATING BOARD FOR HIGHER EDUCATION  
MINUTES OF MEETING  
April 10, 2008**

The Coordinating Board for Higher Education (CBHE) met at 9:15 a.m. on Thursday, April 10, 2008, at Linn State Technical College.

Chair Kathryn Swan called the meeting to order. A list of guests is included as an attachment. The presence of a quorum was established with the following roll call vote:

	<b>Present</b>	<b>Absent</b>
Doris Carter	X	
David Cole	X	
Lowell C. Kruse (by phone)	X	
Jeanne Patterson	X	
Duane Schreimann	X	
Kathryn Swan	X	
Gregory Upchurch	X	

Dr. Donald Claycomb, President of Linn State Technical College (LSTC), welcomed the CBHE, MDHE staff, and visitors and provided a brief history of the college and the uniqueness of the programs and campus. Chair Swan thanked Dr. Claycomb and the LSTC Board of Regents for their hospitality.

**Committee Reports**

Audit Committee

Mr. Duane Schreimann reported that the state auditor issued a report on the state's financial systems; no written findings were reported for the department, and there were no outstanding findings from the previous year.

The MDHE's contract with the independent auditing firm BKD has expired. The department is in the process of soliciting bids for a new auditing contract.

Student Loan / Financial Aid Committee

Mr. David Cole stated that the committee had no business to report.

Strategic Planning Committee

Ms. Jeanne Patterson stated that Mr. Paul Wagner will update the CBHE and the Presidential Advisory Committee on the status of the Coordinated Plan.

### **Presidential Advisory Committee**

#### **FY 2009 Budget Update**

Mr. Wagner explained that several items included in Tab A have changed since the board book was printed.

- HB 2014 – The supplemental operating budget is out of conference and has passed by both houses. The bill should be on its way to the Governor’s desk for signature.
  
- HB 2019 – The supplemental budget for the Lewis and Clark Discovery Initiative was passed and has been signed by the Governor. This bill gives \$31.2 million for the Ellis-Fischel Cancer Center at UMC and \$15 million for the Pharmacy/Nursing Building at UMKC.
  
- HB 2020 – The regular supplemental capital bill has also been signed by the Governor and includes funds for the cooperative engineering program between Missouri State University and the Missouri University of Science & Technology.
  
- HB 2003 - The Senate restored the Governor’s recommendations for the department’s budget, which the House had cut. The Senate also restored the House’s 3 percent reduction of several agencies expense and equipment budgets. The House had changed the Governor’s recommendation on the state employee pay plan to a flat dollar amount – the Senate is recommending a 3 percent increase for all state employees. Mr. Wagner feels confident that the MDHE will come out of conference with the full Governor’s recommendation for FTE, funding for outsourcing, and the full E&E budget.

The House kept the Governor’s recommendation of \$100 million for the Access Missouri program. The Senate has reduced the program to approximately \$76 million.

The bill is now in Conference Committee. The MDHE will continue to provide legislators with the best information available so that they may make the best public policy decision.

#### **College and University Operating Budgets**

The primary difference between the House and Senate for institution operating budgets is the method of calculating the second year of the Governor’s three-year plan. The House is recommending the same dollar amount as the first year increase while the Senate is recommending a percentage of the first year increase.

### Preparing to Care

The Senate did not restore funding for this initiative. While there remains a chance for an amendment on the Senate Floor, this is unlikely.

### Distance Dental Hygiene

The Senate did not make any changes to the House recommendation of \$450,000 for the Missouri Southern State University distance dental hygiene plan.

### Other Recommendations

The House introduced a capital improvements budget bill that has not yet been forwarded to the Senate. The bill includes funding for a Vehicle and Power Center at Linn State Technical College, an expansion study for the UMKC dental school, planning money for expanding the nursing school at UMKC, funding for an autism center at UMC, and planning money for a new facility for the State Historical Society in Columbia.

Mr. Wagner advised that legislators were concerned about overspending on ongoing programs. However, consideration is being given for one-time expenditures such as maintenance and repair or equipment. The MDHE collected and shared with legislators information from institutions on projects that could be undertaken if such funding were available.

Commissioner Robert Stein urged presidents and chancellors to keep the department informed if they should get a sense of where traction is on the spending of one-time monies so that projects may be coordinated and communicated with higher education champions in the legislature.

Commissioner Stein advised that, during the April 8, 2008 Business-Education Summit in Cape Girardeau, higher education made it clear that there was a commitment to Preparing to Care and other strategic initiatives.

Mr. Duane Schreimann asked if there was discussion about increasing state revenue. Mr. Wagner replied that there is very little talk about increasing taxes; in fact, the legislature is recommending cutting taxes this session. It is likely that the next Governor will have to seriously consider tax increases if they want to change the scope of the state's Medicaid program.

### Coordinated Plan Update

The CBHE adopted the framework for the coordinated plan at the February 2008 meeting. The next step in the process was to develop specific goals, targets, and indicators for progress. Little input was received, so the goals and measures document in the board book was prepared primarily by MDHE staff. When developing this document, the department kept in mind that the Coordinated Plan is intended for the lay public including key policymakers and elected officials and that the document should lend itself to annual reporting on the progress toward achievement of established goals.

The MDHE believes that the report should measure the state as a whole rather than evaluating individual institutions and important activities should not be omitted. The document should also overlap with the recommendations that will come out of the Higher Education Funding Task Force; performance funding items recommended by HEF need to be included in the plan. There will be more indicators in the plan than will be tied to performance funding, but performance funding indicators tied to funding should be included in the plan. It is also important to note that performance funding indicators may change over the years.

The department encourages presidents and chancellors to review and comment on the draft document as the CBHE intends to vote on the goals and indicators to be used in a progress report at its June meeting.

President John McGuire stated that the timeline may have challenges as institutions must come to an agreement regarding databases and definitions. Mr. Lowell Kruse stated that if prepared properly and agreed-to, this document will become a baseline to collectively turn to the public for the required funding. Chair Swan agreed that we need to build our message together, and this document is a tool to show the value of higher education.

President Neil Nuttall stated that the Coordinated Plan is comprehensive and expressed appreciation that the CBHE recognized the fact that not every indicator in the draft can be measured. There should be a process of selection to determine how the indicators are measured, which databases should be used, at what point indicators should be measured, and which indicators should receive the most significance. A great deal of work remains to be done to collect and build a reliable database. The document should be reviewed as a plan with parameters and objectives without rushing into strategies and action plans.

Commissioner Stein replied that everyone is frustrated that we are not receiving the appropriations we want and need. It is critical that higher education come forward with a document that focuses on key goals. The months after the June CBHE meeting will be focused on the upcoming elections and the FY 2010 budget. This will be a dynamic document, and as we progress we are free to revise the reporting items as needed. If we don't take action soon, we will be in the same frustrating position a year from now because we have not garnered adequate support from the legislature and the public.

Mr. Greg Upchurch stated that he would be strongly opposed to not adopting indicators at the next meeting.

President Mike Nietzel advised that COPHE would continue to review the draft goals and indicators and would provide the MDHE with its recommendations prior to the June meeting. COPHE will need to consider how goals intersect and the implications of each goal, including:

- progress on some goals may adversely affect progress on others;
- increases in federal or private support should be measured as percentage increases rather than absolute dollars; and

- some measures may be important to the state (e.g., improving ACT scores) but would be difficult for institutions to measure their impact.

Mr. Kruse agreed that it was important to consider the intersections and implications, but it was equally important for the board to take action in June with the understanding that the goals and indicators could be revised and improved as we progress.

There is clear value for institutional long-range planning of having an overall framework for higher education. President Dean Hubbard suggested that the board move ahead, test the indicators, and revise as needed. However, there must be sensitivity to complex issues such as the difference inputs make on measuring learning over time. We must have measurable data at the institutional level.

President Aaron Podolefsky expressed concern that the indicators and goals would be used to judge institutions, and many are issues over which higher education has no control. Should little or no progress be made, higher education may take the blame. We must ensure there is differentiation between effectiveness and institutional management.

Mr. Cole reiterated that the purpose of the plan, goals, and indicators is to establish a document that will make a case for higher education with the public. Dr. Podolefsky responded that the selected indicators should be ones in which higher education will be successful. For example, the number of high school graduates is expected to decline in the coming years. Therefore, an indicator about increasing the number of entering students might be changed to a percentage increase.

Ms. Doris Carter stated that this is not a tool to judge institutions. The board is trying to develop a tool everyone can use to show legislators what higher education is accomplishing. The board is asking presidents and chancellors to provide suggestions to come up with agreed-upon goals and indicators to discuss and vote on in June. If there is disagreement with a particular goal or indicator, contact the department so that it may be adjusted.

Chair Swan shared some critical issues from the board's perspective: participation; affordability; preparation; workforce development; research and development; and more graduates in critical fields. One to two indicators for each area would be needed.

Dr. Brenda Albright advised that numerous states are undertaking strategic planning and placing a stronger emphasis on higher education as a path toward the states' economic wellbeing and an improved quality of life for citizens. The top issues of concern to educators in Missouri are similar to those in other states.

Dr. McGuire asked if it would hamper higher education's strategy to finalize the goals by the June meeting but to forego adopting indicators until the September meeting. Certain indicators necessary to discuss funding with legislators might be presented as preliminary.

Dr. Hubbard stated that the problem with sequencing goals and indicators is that they are not independent and cannot be treated in isolation. In order to meet the June deadline, it may be

necessary to limit the number of indicators for each goal; other indicators could be added, evaluated, and revised later.

Commissioner Stein added that the board is committed to an open process but needs institutional engagement and needs to move forward. The board will adopt a document in June, but each year the indicators may be reviewed and revised to make the document more effective.

Commissioner Stein acknowledged COPHE's commitment to work on the goals and indicators for the June meeting and encouraged MCCA and Linn State Technical College to begin work as well. The department would like to produce another draft of this document for distribution to and review by presidents and chancellors prior to the June meeting so that feedback may be incorporated into a final document for the board's review.

Commissioner Stein added that the department would like to include data from all sectors, and some independent institutions have identified themselves as being able to participate. Chair Swan noted that the independent sector had reviewed the Coordinated Plan and had asked that Strategic Issue #3 be revised so as to include all postsecondary institutions. This will be an action item for discussion and vote at the June meeting.

#### Higher Education Funding (HEF) Task Force Update

Ms. Zora AuBuchon presented information regarding the background and status of the HEF Task Force and its recommendations, which are due to the CBHE in June. The HEF Task Force has developed a funding pyramid (attached) to act as a guideline for the priority and distribution of any funding increases.

Mr. Schreimann was concerned that institutions might never achieve full core funding - the base of the pyramid - and therefore would not undertake strategic or performance funding initiatives. Mr. Schreimann stressed the importance of explaining why yearly increases are needed (e.g., increased student population, increased energy costs, minimal salary/benefit increases for faculty and staff). Higher education must be prepared, however, to undertake strategic initiatives in conjunction with or instead of core increases.

Dr. John Ganio stated that higher education has not yet made the case that investment in postsecondary education provides a public good return unlike competing state priorities such as Medicaid and Corrections.

Ms. AuBuchon stated that legislators strongly encourage higher education to only submit an obtainable budget request. Requests for hundreds of millions of dollars to bring Missouri support to a higher benchmark will not be seriously considered especially without evidence of need, accountability, and benefit to the state.

In regard to higher education funding, Mr. Wagner advised that different methodologies produce different results. On some benchmarks, Missouri is in the bottom quartile for state support while on others Missouri is seen as average.

Missouri will never climb out of the lower quartile in funding unless higher education makes significant progress. While the absolute dollar figure needed should be publicized, higher education must be realistic in what is requested and to accept increases over time. A long-term plan is beneficial and necessary as current legislators step down and new ones are elected.

Chair Swan expressed her appreciation for the collaborative work that has gone into HEF. The timeline for recommendations to be considered by the CBHE is the June 2008 meeting in Cape Girardeau. The two- and four-year sector organizations continue to make progress on distribution models within each sector and expect to have those models completed in time for the June CBHE meeting.

### Legislative Update

Ms. AuBuchon provided an update on bills related to higher education. The item is slightly out of date as there has been movement on many of the bills since printing of the board book.

Immigration is one of the most consistently emphasized issues this year – it is a priority of the Governor and legislative leadership. Many bills impose additional requirements on employers; as major employers, these bills are likely to impact institution hiring processes should they become law.

HB 1463 – Prohibits the admission of students without proof of immigration status. Because more students are admitted than are actually enrolled, institutions and the MDHE worked with the bill sponsor to adjust the wording. The bill has been approved by the House and was referred to committee.

Other bills relate to employment and public benefits. A spate of bills required public entities to receive proof of legal status at the time of application, including grants and scholarships such as Access Missouri and Bright Flight. Again, higher education worked with sponsors of these bills to adjust language so that students must prove their status before they receive their benefits rather than at the time of application.

SB 846 – Expands the A+ program to include students who attend public or private two-year institutions. The original version of the bill also created a scholarship for transfer upon completion of a two-year degree; the scholarship was removed during debate. An amendment was added that would permit high schools, regardless of accreditation status, to participate in the A+ program.

SB 830 – Requires higher education institutions to charge certain veterans a maximum of \$50 per credit hour regardless of the per credit hour cost. Currently, the bill as amended directs institutions to notify the CBHE of funds lost due to this program and for the CBHE to inform to legislature during the budget process where the institutions may be reimbursed.

The department was asked to provide information regarding Missouri's institutional endowments. The department sent surveys that institutions completed and provided a summary to Senator Nodler. The MDHE does not anticipate additional inquiries on this issue during the current legislative session.

### Omnibus Bill Update

Ms. AuBuchon provided an update regarding implementation of the omnibus bill. The department has accomplished a great deal since passage of SB 389.

The most significant implementation activities currently underway involve the Curriculum Alignment Initiative (CAI). Participants in this initiative have drafted entry- and exit-level competencies for beginning collegiate-level courses in key disciplines.

At the June CBHE meeting, the CAI status report will include an update on the gap analysis conducted by an external consultant about the separate competency initiatives underway in K-12 and higher education. Commissioner Stein stated that the results of the gap analysis will provide a starting point for conversation between sectors to identify areas where gaps may be closed or reduced.

Additional work remains regarding the performance funding measures as directed by SB 389. Adoption of goals and progress indicators for the Coordinated Plan along with adoption of funding policies based on the HEF Task Force's recommendations will provide background and guidelines for these measures.

### Action Items

#### Minutes

There is one change to the February 7, 2008 meeting minutes. On page 5 in the second to the last paragraph, the phrase "reducing retention rates" must be amended to "increasing retention rates".

Ms. Carter made a motion to **approve the minutes of the February 7, 2008 meeting as amended**. Mr. Schreimann seconded the motion, and the motion passed unanimously.

#### CBHE Public Policy Update

At the February 2008 meeting, MDHE staff presented a list of CBHE public policies that might be rescinded. President Ken Dobbins asked that rescission of policies regarding 1456 sites be reconsidered. After review, MDHE staff determined that the policy regarding the Sikeston Area Higher Education Center should be retained and the policy regarding Collaboration among Proposed 1456 Sites and Existing Institutions should be retained with the following change:

- Remove the NOTE regarding Sikeston and include a sentence stating "**The community of Sikeston meets the CBHE HB 1456 criteria for designation as an HB 1456 site,**

**and postsecondary institutions serving that community are eligible to apply for and receive funding under HB 1456.”**

Mr. Schreimann made a motion to **approve the Collaboration policy as amended and to retain the Sikeston Center policy.** Ms. Carter seconded the motion, and the motion carried unanimously.

### **Consent Calendar**

Chair Swan advised that the High School Graduates Report was discussed at the Governor’s Business/Education Summit. The Governor was unaware that the MDHE created this annual report and was impressed with the data. We are still working to get the message out that this report is available to the public.

Ms. Carter moved to **approve the items on the Consent Calendar.** Mr. Schreimann seconded the motion, and the motion carried unanimously.

Mr. Kruse departed the meeting.

### **Items for Discussion, Consideration, and Possible Vote**

#### **Carl Perkins Vocational Funds Update**

Mr. Wagner provided an update on the Carl Perkins Vocational Funds. On behalf of community colleges, the Commissioner submitted a letter to the Department of Elementary and Secondary Education (DESE) that outlined concerns regarding the methodologies used in the development of the state plan for Perkins funds as administered by DESE.

Dr. Nuttall provided a summary of the involvement of community colleges in the development of the plan and the issues that remain. There appeared to be significant discrepancies in the Classification of Program (CIP) codes used to identify eligible programs as K-12 follows CIP code guidelines established by DESE while community colleges follow guidelines established by the MDHE.

Another discrepancy was identified regarding methodologies to determine enrollment of postsecondary students. DESE and the community colleges disagreed on data about postsecondary enrollment; according to community colleges, over 18,000 postsecondary students were not being counted for Perkins funding. Community colleges and DESE have agreed to work together to streamline the identification process.

Dr. Nuttall advised that MCCA representatives attended each public hearing regarding Perkins and provided DESE with a list of talking points and an outline of concerns. DESE did not provide any written response. Dr. Nuttall thanked the Commissioner for his intervention and assistance in bringing community college concerns to DESE’s attention.

Commissioner Stein stated that the federal guidelines for Perkins required DESE to work with higher education to develop the state plan. At the State Board of Education (SBE) meeting in April 2008, DESE did not acknowledge publicly that higher education had any concerns with the plan, and the plan was adopted by the SBE.

Mr. Schreimann stated that if concerns remain regarding the methodologies for funding distribution, and DESE remains unresponsive to those concerns, higher education should contact the US Department of Education and request a joint meeting. Commissioner Stein recommended that, in addition to seeking a meeting with the USDE, this issue could be taken up by the P-20 Council.

#### Update on Needs Analysis for Cape Girardeau County and Surrounding Region

Commissioner Stein updated the board on the progress toward an education needs analysis in the southeast region of the state. Eleven education, community, and business leaders in the region contributed monies to fund a needs analysis by an external consultant. Guidelines for the analysis were submitted to potential vendors in March.

#### P-20 Council Update

Chair Swan advised that the Southeast Business/Education Summit was held on April 8<sup>th</sup> and included discussions on WIRED, A+, and Project Lead the Way. A video that will be shown at each summit was presented and was followed by the Governor's remarks and a roundtable discussion. Afterward, breakout sessions engaged participants in determining next steps and identifying partnerships that might result from the day's information.

Chair Swan encouraged everyone to attend the regional summit scheduled for their area. Commissioner Stein noted that institution presidents in the region may be invited to participate on panels for roundtable discussions.

#### Report of the Commissioner

Commissioner Stein advised that the CBHE's Committee on Transfer and Articulation has two new members: Dr. Pam McIntyre of St. Louis Community College is replacing Don Doucette as a representative of the two-year sector, and Ms. Julia Leeman of Sanford-Brown College is replacing Karen Finkenkeller as a representative of the proprietary sector.

Senator Nodler continues to be a higher education champion for one-time funding; please keep communication channels open to ensure the Senator has what he needs to make progress in this area.

All public higher education institutions have signed up for the Missouri Alert Network. The Network has extended the deadline for signup by independent institutions. If all slots are not filled by the deadline, public institutions will have an opportunity to add additional contacts.

In August 2008, the Missouri School Boards' Association is sponsoring a conference on the safety of K-12 schools and postsecondary institutions. This is the second year of the conference; the first year was dedicated to K-12 schools only.

Institutions in the southwest region of the state were encountering tensions on the delivery of off-site programs. The Commissioner met with institution presidents and representatives, and the institutions have made a commitment to work out their differences on delivery and to work collaboratively on joint statements within the region.

The CBHE is working with the University of Missouri in planning a symposium for institution board members to take place in the fall. We hope to position ourselves to continue our message to legislators regarding funding and affordability, and the relationship between the two.

The Commissioner acknowledged MDHE staff for their efforts and introduced faculty fellow Dr. Ken Vollmar and student intern Ms. Nicole Ray. Institutions will receive notices regarding openings for faculty fellows and interns for the next academic year.

### **Adjournment**

Ms. Carter made a motion to **adjourn the meeting**. Mr. Schreimann seconded the motion, and the motion carried unanimously.

**Roster of Guests**  
**Coordinating Board for Higher Education**  
**April 10, 2008**

<b>Name</b>	<b>Affiliation</b>
Brenda Albright	Consultant
Zora AuBuchon	Missouri Department of Higher Education
Wendy Baker	Missouri Department of Higher Education
Leanne Cardwell	Missouri Department of Higher Education
Carla Chance	St. Louis Community College
Jeanie Crain	Missouri Western State University
Curtis Creagh	Lincoln University
Larry Gates	University of Missouri
Charles Gooden	Harris-Stowe State University
Sue Gove	Linn State Technical College
Constance Gully	Harris-Stowe State University
James Kellerman	Missouri Community College Association
Paul Kincaid	Missouri State University
Adam Koenigsfeld	Missouri Department of Higher Education
Nikki Krawitz	University of Missouri
Brian Long	Council on Public Higher Education
Carla McDaniel	Linn State Technical College
Rick Mihalevich	Linn State Technical College
Brenda Miner	Linn State Technical College
John Nilges	Linn State Technical College
Scott Northway	Missouri Department of Higher Education
Marty Oetting	University of Missouri
John Oidtman	Linn State Technical College
Ann Pearce	University of Central Missouri
Scott Peters	Linn State Technical College
Dave Rector	Truman State University
David Russell	University of Missouri System
Dwayne Smith	Harris-Stowe State University
Rochelle Tilghman	Harris-Stowe State University
Laura Vedenhaupt	Missouri Department of Higher Education
Ken Vollmar	Missouri Department of Higher Education
Leroy Wade	Missouri Department of Higher Education
Paul Wagner	Missouri Department of Higher Education

## AGENDA ITEM SUMMARY

### AGENDA ITEM

Final Summary of Legislation, 94<sup>th</sup> General Assembly (2<sup>nd</sup> Regular Session)  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

Higher education was again a major topic of debate during the 2008 legislative session. This item provides information about the bills the legislature passed that will directly impact institutions of higher education. It also contains information MDHE staff will consider as they prepare for the 2009 legislative session.

#### Discussion

An update summarizing all activity on higher education-related legislation is provided as Attachment A. The most significant areas in which legislation was passed include immigration, grants and scholarships, governing boards, textbooks, and the language used to refer to community colleges. A chart indicating the responsibilities imposed by this new legislation is provided as Attachment B.

#### Immigration

Rep. Bob Onder's [HB 1549](#) is an omnibus bill. It contains a variety of provisions intended to close loopholes legislators believe have allowed illegal immigrants to receive public benefits and to work illegally in the U.S. The bill requires employers to take certain steps to verify job applicants' legal eligibility to work in the U.S. It also prohibits the provision of "public benefits" -- which is defined as including postsecondary education -- to aliens unlawfully present in the U.S. and requires applicants for such benefits to provide proof of legal status at the time they apply. The legislature passed this bill on the last day of session.

#### Grants and Scholarships

The legislature passed two bills creating new scholarship programs. Sen. Maida Coleman's [SB 830](#) creates the Missouri Returning Heroes' Education Act. The act requires public institutions of higher education to charge no more than \$50 per credit hour for certain veterans. The CBHE is responsible for ensuring that all institutions comply with the Act's requirements and is permitted to promulgate regulations for implementation.

Institutions are permitted to include information about the amount of tuition waived pursuant to the act in their budget requests to the CBHE, and the CBHE is permitted to include that information in its budget recommendations to the Governor and the legislature. The legislature is permitted to appropriate money to reimburse institutions for the amount of tuition waived.

Coordinating Board for Higher Education  
June 12, 2008

Rep. David Day's [HB 1678](#) creates a scholarship program for the children and spouses of certain veterans killed or significantly wounded in combat. The CBHE may award up to 25 scholarships per year. Recipients may use the scholarships to attend public or private institutions of higher education, but the amount provided for tuition may not exceed the tuition charged by the University of Missouri-Columbia. Recipients will also receive funds for room, board, and books. This bill also contains language identical to that found in SB 830, which creates the Missouri Returning Heroes' Education Act.

Finally, the legislature passed a bill that changes the Kids' Chance Scholarship Program, which the MDHE administers. Rep. Jamillah Nasheed's [HB 2191](#) permits the MDHE to begin distributing any interest accrued in the Kids' Chance Scholarship Fund as scholarships starting on October 13, 2008.

### Governing Boards

Sen. Chuck Graham's [SB 873](#) provides for the University of Missouri board of curators to have a voting student member if Missouri loses a congressional district in redistricting after the 2010 census. Rep. Mike Thomson's [HB 1368](#) clarifies the requirements for the Northwest Missouri State University board of regents.

### Textbooks

Rep. Jake Zimmerman's [HB 2048](#) creates the Textbook Transparency Act. The act requires textbook publishers to provide certain information when they market textbooks. It also requires bookstores to make bundled course materials available for separate purchase when possible and that students be able to use undisbursed financial aid to pay for textbooks, where feasible.

### Community Colleges

Rep. Kevin Wilson's [HB 1869](#) instructs the revisor of statutes to change all statutory references from "junior college" to "community college."

## **2009 Legislative Session**

MDHE staff have begun planning for the 2009 legislative session. Because there will be significant turnover in the legislature after the November 2008 elections, as detailed in Attachment C, the legislative environment is difficult to predict. All MDHE staff have, however, been polled about what subjects might be addressed in the agency's legislative proposals. A list of ideas generated in that poll is provided as Attachment D.

## **STATUTORY REFERENCE**

Chapter 173, RSMo

Coordinating Board for Higher Education  
June 12, 2008

## **RECOMMENDED ACTION**

This is an information item only.

## **ATTACHMENTS**

- Attachment A: Summary of Legislation Related to Higher Education
- Attachment B: New CBHE Duties Imposed by Legislation Passed in 2008
- Attachment C: Turnover in the Legislature after 2008 Elections
- Attachment D: MDHE Employees' Suggestions for Legislative Proposals for 2009



## 2008 Legislative Update Current as of May 19, 2008

Activity this week?	Bill Number	Category: <i>Subcategory</i>
	Sponsor (party)	<i>Official description.</i> Additional comments. Actions on bill.
<b>Truly Agreed and Finally Passed; Signed by the Governor</b>		
	<a href="#">SB 967</a> Mayer (R)	MOHELA <i>Allows Missouri Higher Education Loan Authority to originate federally guaranteed student loans.</i> This bill will allow MOHELA to originate up to 10% of Stafford loans made in the state each year. The 10% limit represents a compromise between MOHELA and the Missouri Banker's Association, which supported the bill. It contains an emergency clause. The Senate passed this bill on 4/1/08. The House passed it on 4/28/08. The Governor signed it on 5/2/08.
	<a href="#">SB 1066</a> Ridgeway (R)	Elementary and Secondary: <i>Teachers</i> <i>Modifies provisions relating to elementary and secondary education.</i> This bill will allow individuals who obtain certification from the American Board for Certification of Teacher Excellence (ABCTE) to become certificated teachers. The bill also contains other provisions related to K-12. The Senate passed this bill on 2/27/08. The House passed it on 4/16/08. It was signed by the Governor on 5/1/08.
	<a href="#">HB 2019</a> Icet (R)	Appropriations: <i>UM</i> <i>Appropriates money for supplemental purposes for the University of Missouri, for the purchase of equipment, planning, expenses for capital improvements, from funds designated for period ending 5/30/08.</i> The House passed this bill by a vote of 151 to 0 on 2/7/08. The Senate truly agreed and finally passed it by a vote of 30 to 3 on 2/18/08. It was signed by the Governor on 2/25/08.
<b>Truly Agreed and Finally Passed</b> <i>The Governor must sign these bills within 45 days after they are sent to him.</i>		
*	<a href="#">HB 1549</a> Onder (R)	Immigration <i>Omnibus</i> <i>Changes the laws regarding illegal aliens and immigration status verification.</i> This bill addresses a wide variety of issues related to immigration, including several that will likely impact public institutions of higher education. The provisions that may affect higher education include -- but may not be limited to -- several requirements pertaining to employees and subcontractors. In addition, aliens unlawfully present in the U.S. are barred from receiving "public benefits," which specifically include "postsecondary education." Applicants for such benefits must provide proof of their immigration status at the time they apply. The House passed this bill by a vote of 124 to 16 (with 5 members voting "present") on 4/10/08. The Senate passed an amended version by a vote of 27 to 7 on 5/15/08. The House would not concur with the Senate's changes and the Senate would not recede from its position, so a Conference Committee was appointed. The Conference Committee developed a Conference Committee Substitute, which was passed by the House on 5/16/08 and by the Senate on the same day.
*	<a href="#">HB 2191</a> Nasheed (D)	Scholarships: <i>A+, Kids' Chance</i> <i>Allows school districts to participate in the A+ schools program irrespective of their accreditation status.</i> This bill also allows students attending private technical colleges that meet certain criteria to receive A+ Scholarships. This bill also provides for the Kids' Chance Scholarship Fund to receive annual \$50,000 transfers from the workers' compensation fund until 2018, and allows the MDHE to begin distributing interest in the fund for scholarships as of October 13, 2008.

The House passed this bill by a vote of 148 to 2 on 4/21/08. The Senate passed an amended version on 5/14/08 by a vote of 34 to 0 on 5/14/08. The Senate's amendments added the language permitting students at certain technical colleges to receive A+ Scholarships and the provisions relating to the Kids' Chance Scholarship. When the bill went to conference to resolve the differences between the House and Senate versions, the House concurred with the Senate's changes. The bill was truly agreed and finally passed on 5/16/08.

**SB 830**

Coleman  
(D)

**Scholarships: *Veterans******Limits the tuition that may be charged by a higher education institution to certain***

***combat veterans.*** This bill requires public institutions of higher education to charge certain combat veterans only \$50 per credit hour. The veteran must maintain a 2.5 GPA to be eligible for the benefit, and the benefit can only be used in a program that leads to a certificate, or to an associate or baccalaureate degree. The CBHE must ensure that institutions comply with the law and may promulgate rules to implement it. The bill does not require the state to reimburse institutions to compensate for tuition waived pursuant to this bill, but it does permit institutions to report the amount of tuition waived to the CBHE, which may report it to the General Assembly, which may reimburse institutions if it chooses to do so.

The Senate passed this bill on 2/18/08. The House passed an amended version on 5/1/08. The Senate concurred with the House's changes, and the bill was truly agreed and finally passed on 5/5/08.

**\* HB 1678**

Day  
(R)

**Scholarships: *Veterans' Survivors***

***Changes the laws regarding members of the military and their families.*** This bill authorizes the creation of a scholarship program for the children and spouses of members of the military killed or at least 80% disabled after September 11, 2001. The CBHE will administer the program, and may award up to 25 scholarships per year. Recipients may attend public or private colleges or universities but may receive no more than the cost of tuition at UM-Columbia for tuition. Recipients may also receive amounts for room and board and for books.

The House passed this bill by a vote of 154 to 1 on 3/04/08. The Senate passed an amended version by a vote of 33 to 0 on 4/30/08. The House concurred with the Senate's changes, and the bill was truly agreed and finally passed on 5/15/08.

**\* SB 873**

Graham  
(D)

**Governance: *UM******Provides for a voting student curator on the UM board of curators if Missouri loses a congressional district based on the 2010 census.***

Current law provides for the UM board of curators to have 9 members, with 1 member from each congressional district. This act provides that if Missouri loses a congressional district after redistricting based on the 2010 census, the ninth member of the board will be a student curator who serves a 2-year term. The student curator could be from any congressional district and could vote on any matter before the board except for the hiring or firing of faculty or staff. The first student curator would be appointed in January 2011 and would replace the existing nonvoting student representative. This bill has been a legislative priority for the Associated Students of Missouri ("ASUM") group for several years. The Senate passed this bill on 4/3/08. The House passed it and it was truly agreed and finally passed on 5/16/08.

**\* HB 1368**

Thomson  
(R)

**Governance: *NWMSU******Clarifies requirements for membership on the Northwest Missouri State University Board of Regents.***

Currently, the NMSU board of regents is composed of 9 members. This bill clarifies that 8 members are voting members and 1 student member is nonvoting. No more than 4 voting members can belong to any 1 political party. Six of the voting members will be chosen from the university's service region, and 1 of them must be a resident of Nodaway County. The other 2 voting members must live outside the service region and in different congressional districts. The regents in office on August 28, 2008, will continue to serve the terms of their original appointments. A majority of voting members is required for appropriation or disbursement of money and for employment or dismissal of faculty. Other provisions of law regarding boards of regents will apply to the extent they are not covered by the specifics of the law relating to NMSU's board.

This is a consent bill. The House passed it on 3/5/08. The Senate passed it and it was truly agreed and finally passed on 5/16/08.

- \* [HB 1869](#)  
Wilson  
(R)  
Community Colleges  
*Instructs the revisor of statutes to change in the revised statutes all references to "junior college" to "community college."*  
This is a consent bill. It was passed by the House on 4/2/08. The Senate passed it and it was truly agreed and finally passed on 5/16/08.
- 
- \* [HB 2048](#)  
Zimmerman  
(D)  
Instructional Materials  
*Establishes the "Textbook Transparency Act."* This bill will require textbook publishers to make the price, any substantial content revision between the last 2 editions, copyright dates, and the variety of formats for a text available, upon request, to faculty members or "textbook adopters" at public higher education institutions when the publisher provides information about its products. The bill distinguishes between supplemental material and integrated textbooks and requires a publisher to make a textbook and supplemental material available separately when selling the materials bundled together. Where feasible, public institutions of higher education must develop policies allowing students to use financial aid that has not been disbursed to purchase textbooks at campus bookstores. Public higher education institutions are required to encourage the selection of textbooks early enough to enable the campus bookstore to supply information about textbooks and materials to publishers, which will promote cost efficiency. This bill was originally promoted by the Associated Students of Missouri ("ASUM"). The sponsor worked with representatives of the textbook publishing industry, ASUM, and the University of Missouri bookstore, and he stated that the Senate Committee Substitute is something everyone can "live with."  
This is a consent bill. The House passed it on 4/2/08 by a vote of 150 to 0. The Senate passed an amended version on 5/12/08 by a vote of 32 to 1. The House concurred with the Senate's changes and the bill was truly agreed and finally passed on 5/16/08.
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- \* [SB 711](#)  
Gibbons  
(R)  
Property Taxes  
*Modifies provisions regarding property taxation.* These changes may impact community colleges' local financial support.  
Passed by the Senate on 2/27/08. An amended version was passed by the House on 5/13/08. The Senate would not concur with the House's changes and the Senate would not recede from its position, so a Conference Committee was appointed. The Conference Committee developed a Conference Committee Substitute, which was passed by the Senate on 5/14/08 and by the House on 5/16/08.
- 
- \* [SB 714](#)  
Loudon  
(R)  
Sex Offenders  
*Modifies various provisions relating to sexual offenses.* This bill addresses a wide variety of issues related to sexual offenses, including several that will likely impact public institutions of higher education. The provisions that may affect higher education include -- but may not be limited to -- a provision that requires persons who must register as sex offenders in other states to register in Missouri if they are here to attend college for more than 7 days in a 12-month period and a provision that changes the requirements regarding registry of individuals living within a certain range of child care facilities. The bill contains an emergency clause, so many of its provisions will go into effect as soon as the bill is signed by the Governor.  
The Senate passed this bill on 3/17/08. The House passed it on 5/16/08.
- 
- [SB 863](#)  
Rupp  
(R)  
MOST: *Tax Deduction*  
*Allows married taxpayers filing joint returns to deduct a portion of contributions to the Missouri Higher Education Savings Program from income.* Currently, a taxpayer may deduct up to \$8,000 of annual contributions to the Missouri Higher Education Savings Program from income to determine Missouri adjusted gross income. This act modifies the deduction provision to allow married taxpayers filing joint tax returns to deduct up to \$16,000 of annual contributions from income and allows similar tax treatment for other qualified tuition savings programs established under the provisions of Section 529 of the Internal Revenue Code.  
This is a consent bill. It was passed by the Senate on 3/31/08 and an amended version was passed by the House on 4/30/08. The Senate concurred with the House's changes, and the bill was truly agreed and finally passed on 5/7/08.

**SB 768**Rupp  
(R)

Miscellaneous

*Creates the Missouri Commission on Autism Spectrum Disorders and the Office of Autism Services.* Commission members will include representatives from elementary and secondary and higher education, the commissioners of elementary and secondary education and higher education, and others. The commission will make recommendations to the Governor and the legislature. The Senate passed this bill on 4/10/08. The House passed it on 5/8/08.

\* **HB 1784**  
Meadows  
(D)Public Facilities: *Flag Display*

*Requires any American or Missouri flag flown on state property to be manufactured in the United States.*

The House passed this bill on 4/02/08. The Senate passed it on 5/16/08.

**SB 806**Engler  
(R)Public Facilities: *Flag Display*

*Requires all government buildings to fly the U.S. and Missouri flags at half-staff when any Missouri resident is killed in combat.*

The Senate passed this bill on 3/6/08. The House passed it on 4/28/08.

**Resolution Adopted by Both Chambers**\* **SCR 39**  
Shields  
(R)

Medical Education

*Request the withdrawal of proposed federal rules relating to Direct Graduate Medical Education Funds.* This resolution asks the Missouri congressional delegation to oppose a rule proposed by the federal Centers for Medicare and Medicaid Services that would stop the Medicaid program from providing matching funds for direct graduate medical education and activities. The resolution states that Missouri will lose \$65 to \$70 million annually if the match is discontinued.

The Senate adopted this resolution on 4/23/08, and the House adopted it on 5/16/08.

**Passed by Both Chambers, but with Different Language**\* **HB 2062**  
Pearce  
(R)Scholarships: *Veterans*

*Changes the laws regarding members of the military and their families.* The version of this bill voted out of committee and approved by the House included language that would have created a new state-funded scholarship available to up to 25 children or spouses of killed or disabled veterans per year. Recipients could have used the scholarship to attend public or private institutions and would have received funds to cover all or part of their tuition and an allowance for books and living expenses.

The House passed this bill on 4/24/08. The Senate passed an amended version on 5/16/08. Because the House and Senate versions differed, the bill was sent back to the House on 5/16/08, but was not taken up before the end of session. Although this bill did not pass, HB 1678 (which did pass) creates a similar scholarship program.

**On Calendar of Bills for Third Reading****SB 1010**Nodler  
(R)Institution-Specific: *MSSU*

*Authorizes the Governor to convey state property in Jasper County to Missouri Southern State University.*

This is a consent bill. It was passed by the Senate on 2/28/08. The House Corrections & Public Institutions Committee voted do pass on a Committee Substitute on 4/9/08. The House Rules Committee voted and reported do pass on 4/14/08. The bill was debated on the House floor on 5/8/08 and then placed on the House Calendar of Senate Bills for Third Reading.

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**On Informal Calendar**


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**HB 2226**Muschany  
(R)**MOST***Allows married taxpayers filing joint returns to deduct a portion of contributions to the Missouri Higher Education Savings Program from income.*

This is a consent bill. It was passed by the House on 4/2/08 and voted out of the Senate Ways & Means Committee on 4/17/08. This bill was placed on the Senate Informal Calendar and was never taken up for debate. Although this bill did not pass, SB 863 (which did pass) contains similar language.

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**HB 1463**Nolte  
(R)**Immigration: Admissions***Prohibits the admission of unlawfully present aliens to public institutions of higher education.*

The version of the bill passed by the House would have prohibited the enrollment (not the admission) of illegal immigrants in public institutions of higher education. The Senate Committee Substitute would have required the registrar of each institution to annually certify that the institution had not knowingly admitted any illegal immigrants to the CBHE before the approval of any appropriations. The CBHE would have then forwarded the certifications to the Governor and certain legislators.

This bill was passed by the House of 3/13/08 after extensive floor debate. The Senate Pensions, Veteran Affairs & General Laws Committee voted do pass on a Committee Substitute on 4/23/08. The bill was placed on Senate Informal Calendar and not taken up before the end of session.

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**HB 1876**Cunningham  
(R)**P-20***Requires the designation of an agent for a binding signature on a placement settlement and makes the five-business-day notice applicable to all special education due process hearings.*

The Senate Committee Substitute approved on 4/24/08 included language that would have established the P-20 Council as a nonprofit corporation (language originally included in SB 1221).

This is a consent bill. The House passed it on 3/13/08. The Senate Education Committee heard the bill on 4/9/08 and voted do pass on a Committee Substitute on the same day. The bill was removed from the Senate Consent Calendar on 4/16/08. The Senate Education Committee voted do pass on a new Committee Substitute on 4/24/08. The bill was placed on the Informal Calendar. It was taken up for debate on 5/15/08, but no final vote was taken before the end of session.

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**Passed by One Chamber; Committee in Other Voted Do Pass**


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**HCR 7**Pearce  
(R)**International Education***Encourages students and faculty to promote international education at Missouri colleges and universities.*

The House adopted this resolution on 4/16/08 by a vote of 143 to 0. The Senate Rules, Joint Rules, Resolutions & Ethics Committee voted do pass on 4/30/08.

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**\* SB 858**Rupp  
(R)**Immigration***Modifies the law relating to illegal immigrants.* This bill contained a broad range of provisions related to immigration, several of which would have impacted public institutions of higher education. It contained language similar to that found in HB 1463, which prohibited the enrollment of illegal aliens and provided that aliens unlawfully present in the U.S. could not receive public benefits. It also contained language pertaining to employment.

The Senate Pensions, Veterans' Affairs & General Laws Committee combined this bill with SBs 750, 751, 858, 927, 1186, 1255, 1268, & 1269 and voted the combined bill out of committee on 3/26/08. The bill was perfected by the Senate on 4/3/08 and referred to the House Special Committee on Immigration on 4/10/08, which heard the bill on 4/23/08. The committee voted do pass on a Committee Substitute on 5/5/08 and referred the bill to the House Rules Committee the same day. The Rules Committee returned the bill to the Special Committee on Immigration on 5/12/08, and the Special Committee on Immigration voted do pass on a new substitute version of the bill on 5/15/08 and referred it to the Rules Committee the same day.

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- \* [HB 1320](#)  
Brown, M.  
(D)  
Polytechnic Institutes  
*Authorizes community improvement districts that are political subdivisions to sponsor and operate a polytechnic institute for science and technology within the authorizing city or county.* "Polytechnic institute" was not defined in the bill, but the bill's sponsor indicated in public testimony that such an institute would operate in connection with the Kansas City Public School District, under the supervision of DESE, and would offer hands-on training to prepare students for jobs. Funding would be provided by a local sales tax and bonds.  
This is a consent bill. It was passed by the House on 2/20/08. The Senate Economic Development, Tourism & Local Government Committee voted do pass on 5/13/08.

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**Passed by One Chamber; Committee in the Other Voted Do Not Pass**

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[SB 846](#)Rupp  
(R)Scholarships: *A+, Kids' Chance*

*Modifies the laws relating to higher education scholarships.* This bill would have expanded the A+ Schools Program to provide scholarships for students who attend private technical colleges that meet certain criteria. The version approved by the Senate would also have permitted unaccredited school districts to participate in the A+ Program if they met the other criteria for participation. Although the original version of the bill also created the "Community College Associate Degree Transfer Incentive Program" (also known as the "completer scholarship"), the version approved by the Senate did not. In addition, the version approved by the Senate contained a change in the Kids' Chance Scholarship Program. The Senate passed this bill on 4/10/08. The House Higher Education Committee 4/17/08 voted do not pass on the bill on 4/29/08, citing concerns about using state monies for private institutions in this manner. Although this bill did not pass, HB 2191 (which did pass) contains the language that would permit students attending certain private technical colleges to receive A+ Scholarships, that would allow high schools to participate in the A+ Program regardless of accreditation status, and that would change the Kids' Chance Scholarship Program.

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**Passed by One Chamber; Referred to Committee in the Other**

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[HB 2266](#)Jones  
(R)Scholarships: *Missouri Teaching Fellows Program*

*Changes the laws regarding the Missouri Teaching Fellows Program.* This bill would have permitted students graduating from college in 2009 to participate in the program. This bill was passed by the House on 4/24/08 and referred to the Senate Education Committee on 4/29/08.

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**Passed by One Chamber; Heard by Committee in the Other**

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[HB 1736](#)Schneider  
(R)

Immigration

*Establishes the Missouri Illegal Immigration Relief Act.* This bill would have prohibited state entities from giving unauthorized aliens any public benefits, including grants. It would have required public entities to verify applicants' legal status at the time of application for any public benefit. It would also have required all employers to use the federal government's electronic verification system to confirm that job applicants are legally eligible for employment. The House Special Committee on Immigration voted do pass on a Committee Substitute on 4/16/08. The House Rules Committee voted and reported do pass on 4/30/08. The Committee Substitute was adopted by the House and perfected with amendments on 5/8/08. It was referred to the Fiscal Review Committee on 5/9/08.

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**On Informal Calendar in Originating Chamber**

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[SB 815](#)Goodman  
(R)

Higher Education Curriculum

*Creates the Farm Mentoring and Education Authority to administer agricultural education programs to incubate new farms.* The Authority would have been housed within the UM Extension Service and would have provided educational programming aimed at helping individuals plan and begin sustainable farm enterprises. The Senate Agriculture, Conservation, Parks & Natural Resources Committee voted do pass on a Committee Substitute on 2/19/08. It was placed on Senate Informal Calendar on 3/12/08 and not taken up before the end of session.

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**Rules Committee Voted Do Pass**


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**HB 2210**Jones  
(R)**Sunshine Law**

*Modifies Sunshine Law provisions.* This bill would have expanded the definition of "public governmental body" and expressly included leases in the definition of "public record." It also specified that the "legal causes of action" exception to the Sunshine Law would only cover cases where a lawsuit had actually been filed or correspondence threatening to sue. It would have prohibited persons other than members of the public body, their attorneys and staff assistants, and others actually needed to provide testimony from being present during closed session. Finally, it would have required that certain records be disclosed in a format that can be "easily accessed and manipulated" and would have changed the provisions governing the payment of attorney's fees.

This bill was introduced on 2/19/08 and referred to the House Judiciary Committee on 2/28/08. It was re-referred to House Special Committee on General Laws on 3/6/08. The committee heard the bill on 3/25/08 and voted do pass on a Committee Substitute on 4/15/08. The bill was referred to the House Rules Committee on 4/16/08, and the Rules Committee voted and reported do pass on 5/8/08.

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**HB 2159**Grill  
(D)**Diploma Mills**

*Establishes the Missouri Diploma and Transcript Act, which creates the crime of selling a fraudulent diploma or transcript.*

The Special Committee on Student Achievement voted do pass on a Committee Substitute on 3/26/08. The House Rules Committee voted and reported do pass on 4/3/08.

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**Committee Voted Do Pass**


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**HB 1604**Bringer  
(D)**Scholarships: Foster Children**

*Allows eligible foster children to receive a waiver of tuition and fees at state-funded colleges or universities.* The Committee Substitute voted out of the House Higher Education Committee contained language intended to make it clear that institutions would only be required to offer the waiver if they received state appropriations to offset the lost income.

Introduced 1/10/08. The House Higher Education Committee heard the bill and voted do pass on a Committee Substitute on 4/29/08.

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**HB 2533**Schoemehl  
(D)**Tuition: Tax Deduction**

*Authorizes an income tax deduction for certain tuition costs.* This bill would have given a tax deduction for costs incurred in connection with the last 18 hours needed to complete a bachelor's degree for persons who had been out of school for at least 4 years. The bill's sponsor testified to the House Higher Education Committee that the bill was intended to help people who were forced to drop out of college before getting their degrees.

Introduced 3/31/08. The House Higher Education Committee heard the bill and voted do pass on 4/29/08.

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**SB 1167**Stouffer  
(R)**Scholarships: Veterans**

*Modifies various provisions of law relating to members of the military and their families.* The CBHE would have provided up to 25 scholarships per year. Scholarships would have included amounts for tuition, room and board, and books.

First read on the Senate floor 2/20/08. The Senate Pensions, Veterans' Affairs & General Laws Committee heard the bill on 3/26/08 and voted do pass on a Committee Substitute on 4/2/08.

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**HB 1479**Cunningham, J.  
(R)**Governance: Roll Call Voting**

*Requires governing boards at public colleges and universities, community college districts, and school districts to take roll-call votes on school policy matters.*

Prefiled 12/18/07. The House Higher Education Committee heard the bill on 2/26/08 and voted do pass on 3/4/08.

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[HB 1775](#)

Thomson  
(R)

## Law Enforcement on Campus

*Authorizes college and university police officers to enforce traffic regulations on college or university property.*

Introduced 1/22/08. The House Committee on Crime Prevention & Public Safety heard the bill and voted do pass on 2/19/08.

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**Heard by Committee**


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[HB 1979](#)

Smith  
(R)

Scholarships: *Missouri National Guard; Missouri Reservists Family*

*Establishes the Missouri National Guard and Missouri Reservists Family Education Grant.* This bill would have provided a scholarship covering the cost of tuition at a public college or university plus money for books and room and board. The scholarship would have been available to spouses and children of certain Guard members or reservists.

Introduced 2/04/08. The House Higher Education Committee conducted a public hearing of this bill on 4/9/08.

[HB 2582](#)

Grisamore  
(R)

Scholarships: *Special Education Teachers*

*Establishes scholarships for future special education teachers.*

Introduced 4/1/08. The House Higher Education Committee conducted a public hearing of this bill on 4/9/08.

[SB 1221](#)

Lager  
(R)

## P-20 Council

*Creates the P-20 Council to create a more efficient and effective education system.*

This act would have allowed the Governor to establish the "P-20 Council" as a private not-for-profit corporation on behalf of the state. The Council's board of directors would have consisted of 13 members, including the Director of the Department of Economic Development, the Commissioner of Higher Education, the Chairperson of the CBHE, the President of the State Board of Education, the Chairperson of the Coordinating Board for Early Childhood, and the Commissioner of Education, as well as 7 members appointed by the Governor.

Introduced 2/27/08. The Senate Education Committee conducted a public hearing of this bill on 2/28/08. The committee did not vote on the bill that day, but they did amend the bill onto HB 1876 (which did not pass).

[HB 1577](#)

Schneider  
(R)

Scholarships: *A+ and Completer*

*Adds two-year public and private vocational or technical schools to the A+ Schools Program and creates the "Community College Associate Degree Transfer Incentive Scholarship Program."* This program is commonly referred to as the "Completer Scholarship." In this bill, students who graduated from a 2-year institution with an AA or another degree that contains the 42-hour block would have received a scholarship to complete their education at any 4-year institution.

Introduced 1/9/08. The House Higher Education Committee conducted a public hearing on this bill on 3/11/08. Although this bill did not pass, HB 2191 (which did pass) contains the language permitting students at certain private technical colleges to receive A+ Scholarships.

[HB 1596](#)

May  
(R)

Institution-Specific: *UM*

*Specifies additional requirements for proposed land use changes on land owned by the University of Missouri.*

Introduced 1/10/08. The House Higher Education Committee conducted a public hearing on this bill on 3/4/08.

[SB 1072](#)

Rupp  
(R)

## Charter School Sponsorship

*Allows expanded charter school operations for charters specifying certain special education students and modifies sponsors.* This bill would have allowed a community college whose service area includes any portion of a school district in which a charter school may be operated to sponsor a charter school. Any public or private 4-year college or university with its primary campus in Missouri and with an approved teacher preparation program would also have been permitted to sponsor a charter school. First read 2/4/08. The Senate Education Committee conducted a public hearing on this bill on 2/27/08.

**SB 1085**Coleman  
(D)**Scholarships: A+**

*Allows school districts to participate in the A+ schools program irrespective of their accreditation status.* Unaccredited and provisionally accredited schools would still have to meet the other requirements for becoming an A+ school.

First read 2/5/08. The Senate Education Committee conducted a public hearing on this bill on 2/27/08. Testimony at the hearing focused on whether A+ should reward schools or students. At least one committee member expressed an opinion that it the program is unfair to students who are unable to get the A+ award because they happen to attend a non-A+ school. Other committee members expressed continued support for the original purpose of the A+ Program, which they believed was to incent schools to meet certain standards. Although this bill did not pass, HB 2191 (which did pass) contains similar language.

**SB 894**Green  
(D)**Higher Education Tax Deduction**

*Creates an income tax deduction for higher education expenses.*

Prefiled 12/18/07. The Senate Ways & Means Committee conducted a public hearing on this bill on 2/25/08.

**SB 984**Shoemyer  
(D)**Scholarships: *Bright Flight***

*Modifies provisions of the Bright Flight Scholarship Program.* This bill would have clarified several procedural issues related to Bright Flight, but would not have changed the award amounts and basic eligibility criteria.

First read 1/22/08. The Senate Education Committee conducted a public hearing on this bill on 2/20/08.

**HB 1351**Cunningham, M.  
(R)**Public Institutions: *Traditional Holiday Names***

*Requires state agencies, public schools and colleges, and political subdivisions to use the traditional names of holidays.*

Prefiled 12/14/07. The House Local Government Committee conducted a public hearing on this bill on 2/13/08. Several committee members expressed general concern about the treatment of "traditional" symbols at public universities; others asked if this bill is really necessary and raised questions about what constitutes "traditional" holidays.

**HB 1315**Cunningham, J.  
(R)**Intellectual Diversity**

*Establishes the Emily Brooker Higher Education Sunshine Act, which defines intellectual diversity for reporting purposes at public higher education institutions.*

This bill is similar to one filed last year. This version would have required public institutions of higher education to provide the CBHE with a report about steps taken to ensure "intellectual diversity" and the free exchange of ideas. The reports would have been made annually, and the CBHE would have provided the reports to the General Assembly.

Prefiled 12/3/07. The House Higher Education Committee conducted a public hearing on this bill on 2/5/08. At the hearing, the bill's sponsor emphasized that this year's version of the bill is relatively limited in what it requires institutions to do. The bill outlines many steps institutions are permitted (not required) to take. The sponsor pointed out that the UM system has voluntarily implemented many of the steps described in the bill and had not experienced any "death of academic freedom." Several students spoke against the bill, arguing that it is unnecessary and will have a harmful effect on campus dialog.

**HB 1352**Page  
(D)**Student Housing: *Sex Offender Registry***

*Requires public institutions of higher education to check the sexual offender registry prior to making student housing assignments and prohibits housing to anyone required to register as a sexual offender.*

Prefiled 12/4/08. The House Crime Prevention & Public Safety Committee conducted a public hearing on 1/29/08. Questions raised at the hearing included whether out-of-state students would be covered under the checks and if using the sex offender's registry is the best way to identify dangerous students. The bill's sponsor indicated that the bill may be amended to address the committee's concerns.

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**Referred to Committee**


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**HB 2327**Bivins  
(R)

Scholarships: *Access Missouri*  
*Redistributes proceeds from admission fees paid to the gaming commission fund from excursion gambling boats which began operating on or after December 1, 2007.* Some of the funds would have gone to the Access Missouri Financial Assistance Fund.  
 Introduced and first read on the House floor 3/3/08. Second read 3/4/08. Referred to the House Special Committee on Veterans 4/10/08.

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**HB 1693**Zweifel  
(D)

Scholarships: *Missouri Education Promise*  
*Establishes the Missouri Education Promise Program.* The program would have provided scholarships to students who attend public 4-year institutions after participating in the A+ Program and completing the 42-hour block. The scholarship would have been available only to full-time students and would have been tied to eligibility criteria including completion of community service hours. The scholarship would have covered tuition, fees, and up to 50% of the cost of books.  
 Introduced and first read on the House floor 1/16/08; second read 1/17/08. Referred to the House Higher Education Committee 4/3/08.

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**HB 1697**Zweifel  
(D)

MOHELA  
*Places restrictions on the Missouri Higher Education Loan Authority relating to use of proceeds from bonds, fees, and revenues.* Restrictions would have included using MOHELA's proceeds only for administering student loans, lowering student loan rates, forgiving student loans, issuing student scholarships, and for the proper administration of the authority.  
 Introduced and first read on the House floor 1/16/08; second read 1/17/08. Referred to the House Higher Education Committee 4/3/08.

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**HB 2177**Harris  
(D)

Sunshine Law  
*Changes provisions relating to the Missouri Sunshine Law.* This bill would have required that all public employees who send or receive messages on mobile devices to archive those messages and would have changed the legal standards for Sunshine Law violations.  
 Introduced and first read on the House floor 2/18/08. Second read 2/19/08. Referred to the House Judiciary Committee on 3/27/08.

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**HB 2179**Wildberger  
(D)

Immigration: *Employment*  
*Creates sanctions for hiring unauthorized aliens.*  
 Introduced and first read on the House floor 2/18/08. Second read 2/19/08. Referred to the House Special Committee on Immigration 3/27/08.

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**HB 2195**Cunningham  
(R)

Scholarships: *Veterans*  
*Makes members of the reserves of any branch of the United States armed forces eligible for a National Guard educational assistance grant.*  
 Introduced and first read on the House floor 2/19/08. Second read 2/20/08. Referred to the House Special Committee on Veterans 3/27/08.

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**HB 1853**Bivins  
(R)

Sunshine Law  
*Requires any public governmental body to make and retain a verbatim audio recording of any closed meeting.*  
 Introduced and first read on the House floor 1/24/08. Second read 1/28/08. Referred to the House Judiciary Committee 2/28/08.

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**SB 1223**

Graham

(D)

**Scholarships: *Kids' Chance***

***Modifies provisions relating to the Kids' Chance Scholarship Fund.*** Current law requires the Director of the Division of Workers' Compensation to deposit \$50,000 annually into the Kids' Chance Scholarship Fund from 1999 until 2008. This act would have changed the termination date from 2008 to 2018 so that the Director would continue to deposit \$50,000 annually until 2018. In addition, the MDHE would have been permitted to begin distributing any accrued interest in the fund as scholarships after the second Monday in October 2008.

First read on the Senate floor 2/27/08. Second read and referred to the Senate Education Committee 2/28/08. Although this bill did not pass, HB 2191(which did pass) contains similar language.

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**SB 1230**

Koster

(D)

**Immigration: *Employment, Admissions, Financial Aid***

***Modified the law relating to illegal immigrants.*** This bill would have required state employers to affirmatively verify new employees' legal eligibility to work in the U.S. by 1/1/09 to take steps to ensure that contractors' employees may legally work in the U.S. by 1/1/10. It also would have prohibited the admission of illegal aliens to public colleges and universities and the issuance of any "public benefit" (specifically defined to include grants and postsecondary education) to illegal aliens. It would have required all applicants for public benefits to present affirmative proof of their legal status at the time they apply for the benefits.

First read on the Senate floor 2/27/08. Second read and referred to the Senate Pensions, Veterans' Affairs & General Laws Committee 2/28/08.

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**HB 1762**

Storch

(D)

**Scholarships: *Twenty-First Century Scholars Program***

***Establishes the Twenty-First Century Scholars Program.*** This bill would have created a scholarship program that low-income students would enter into by signing a contract in 8th grade agreeing to abide by certain requirements. Recipients would have been able to use scholarships to attend any 2- or 4-year institution in the state.

Introduced 1/22/08. Referred to the House Higher Education Committee 2/14/08.

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**HJR 60**

Cunningham, J.

(R)

**Elementary and Secondary: *Commissioner***

***Proposes a constitutional amendment requiring gubernatorial appointment of the Commissioner of Education.***

Introduced 1/28/08. Referred to the House Elementary & Secondary Education Committee 2/14/08.

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**SB 1087**

Clemens

(R)

**Scholarships: *Non-Traditional Students***

***Creates the Non-Traditional Student Educational Expense Repayment Program.***

Under this program, the MDHE would have administered up to \$500,000 worth of scholarships each year, with individual awards not to exceed \$10,000 per student. In order to receive the awards, students would have had to meet the criteria for "non-traditional students" set forth in the bill.

First read on the Senate floor 2/5/08. Second read and referred to the Senate Education Committee 2/6/08.

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**HB 1346**

Portwood

(R)

**Immigration**

***Establishes the Missouri Taxpayer and Citizen Protection Act regarding illegal aliens in the state.*** This bill addressed a wide range of immigration issues, including generally requiring colleges and universities to obtain proof of legal citizenship status before issuing student or employee identification cards; requiring all public employers to use the federal Basic Pilot Program to confirm that new employees' citizenship status makes them eligible for legal employment; and prohibiting those who are not lawfully in the U.S. from receiving scholarships or financial aid, or in-state tuition.

Prefiled 12/3/07. Referred to the House Ways & Means Committee 1/24/08. Re-referred to the House Special Committee on Immigration 1/30/08.

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**SB 1036**Coleman  
(D)Scholarships: *Veterans*

*Creates an educational grant for children and spouses of veterans who are killed in combat.* The CBHE would have provided up to 25 scholarships per year. Scholarships would have included amounts for tuition, room and board, and books.

First read on the Senate floor 1/28/08. Second read and referred to the Senate Pensions, Veterans' Affairs & General Laws Committee 1/30/08. Although this bill did not pass, HB 1678 (which did pass) contains similar language.

**HB 1381**Kraus  
(R)Immigration: *Employment*

*Prohibits the employment of an unauthorized alien in Missouri.*

Prefiled 12/11/07. Referred to the House Special Committee on Immigration 1/24/08.

**HB 1655**Nance  
(R)

## Immigration

*Requires applicants for public benefits to prove citizenship, permanent residence, or lawful presence to be eligible for such benefits.* The bill specified that "public benefits" include higher education and grants.

Introduced 1/15/08. Referred to the House Special Committee on Immigration 1/24/08.

**HB 1698**Zweifel  
(D)Scholarships: *Bright Flight*

*Modifies the Bright Flight Scholarship program by requiring recipients to maintain at least a 3.0 cumulative grade point average.*

Introduced 1/17/08. Referred to the House Higher Education Committee 1/24/08.

**SB 983**Purgason  
(R)

## Intellectual Diversity

*Requires public higher education institutions to annually report on steps taken to ensure intellectual diversity.* This bill is identical to Rep. Jane Cunningham's HB 1315.

First read on the Senate floor 1/22/08. Second read and referred to the Senate Education Committee 1/24/08.

**SB 965**Crowell  
(R)

## Higher Education Curriculum

*Requires completion of American history and literature classes in order to graduate from a public higher education institution.*

First read on the Senate floor 1/16/08. Second read and referred to the Senate Education Committee 1/22/08.

**SB 871**Bray  
(D)

## Appropriations

*Removes language preventing appropriation of money to public colleges and universities that knowingly employ a professor or instructor who is a registered sex offender.*

Prefiled 12/5/07. Referred to the Senate Education Committee 1/15/08.

**HB 1307**Day  
(R)Scholarships: *Veterans*

*Requires higher education institutions which receive state funds to limit the amount charged for tuition to certain combat veterans.* Institutions would have been required to charge qualifying veterans no more than 25% of their current tuition or \$100 per credit hour, whichever is lower.

Prefiled 12/3/07. Referred to the House Special Committee on Veterans 1/10/08.

**Not Referred to Committee****HB 2558**Lampe  
(D)

## Sunshine Law

*Changes provisions relating to the Missouri Sunshine Law.*

Introduced and first read on the House floor 4/1/08; second read 4/2/08.

**HJR 78**

Baker

(D)

**Construction and Renovation**

*Proposes a constitutional amendment authorizing the sale of bonds to plan, design, construct, renovate, and maintain state college and university buildings.*

Introduced and first read on the House floor 4/1/08; second read 4/2/08.

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**HB 2515**

Thomson

(R)

**Institution-Specific: NWMSU**

*Allows Northwest Missouri State University to enter into design-build contracts for residential housing projects that exceed an expenditure of one hundred thousand dollars.*

Introduced and first read on the House floor 3/31/08; second read 4/1/08.

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**HB 2358**

Yates

(R)

**Scholarships: *Bright Flight***

*Requires students to achieve a minimum ACT score of 30, or the SAT equivalent, in order to be eligible for the Bright Flight Program.*

Introduced and first read on the House floor 3/5/08; second read 3/6/08.

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**HB 2296**

Robb

(R)

**Scholarships: *Access Missouri***

*Changes the grade point average requirement of the Access Missouri Financial Assistance Program from 2.5 to 2.0 on a four-point scale.*

Introduced and first read on the House floor 2/28/08; second read 2/29/08.

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**HB 2317**

Lampe

(D)

**Professional licensure: *Educators***

*Establishes the "Professional Educators' Standards and Practices Act." If this bill had passed, many of the teacher certification functions currently assigned to DESE would have been assigned to a board within the CBHE.*

Introduced and first read on the House floor 2/28/08; second read 2/29/08.

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**HB 2280**

Cunningham

(R)

**Higher Education: *Miscellaneous***

*Requires students at public institutions of higher education to pay the full costs of instruction when they take the same course three or more times.*

Introduced and first read on the House floor 2/27/08; second read 2/28/08.

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### New CBHE Duties Imposed by Legislation in 2008

Bill	Subject	New Duties	MDHE Area Responsible
<a href="#">HB 1549</a>	Immigration omnibus bill	This bill requires applicants for state grants and scholarships to provide proof of citizenship before the applicants receive grants or scholarships.	Grants and Scholarships, General Counsel
		This bill also requires employers to comply with certain requirements to verify prospective employees' legal citizenship status. The MDHE already takes steps to confirm that employees are legally eligible to work in the U.S., but the department's administrative operations staff and general counsel will verify that current procedures meet the requirements of the new law.	Administrative Operations, General Counsel
<a href="#">HB 1678</a>	War Veterans' Survivors Grant	The CBHE is responsible for administering up to 25 grants per year, promulgating rules to implement the program, and providing forms necessary to apply for the grant.	Grants and Scholarships
		This bill also contains the Missouri Returning Heroes' Education Act.	Same as SB 830
<a href="#">HB 2191</a>	A+ Scholarship, Kids' Chance Scholarship	This bill permits the MDHE to distribute interest accrued in the Kids' Chance Scholarship Fund after October 13, 2008.	Grants and Scholarships
<a href="#">SB 768</a>	Missouri Commission on Autism Spectrum Disorders	The Commissioner of Higher Education or his/her designee will be a member of this commission.	Commissioner
<a href="#">SB 830</a>	Missouri Returning Heroes' Education Act	The CBHE is required to ensure that all public institutions comply with the tuition limitation set forth in the act and is permitted to promulgate regulations to implement it.	Grants and Scholarships, General Counsel
		The CBHE is also permitted to include information about the amount of tuition waived in its budget recommendations to the Governor and the General Assembly.	Fiscal Affairs
<a href="#">SB 967</a>	Allows MOHELA to originate Stafford loans	Although the law does not specifically require action by the MDHE, the MDHE executed an agreement with MOHELA whereby it agreed to guarantee student loans originated by MOHELA.	Student Loan Program, General Counsel

## Turnover in the Legislature After November 2008 Elections

### House of Representatives

Every House seat is up for election in November 2008. In addition, the following will not be returning to the House of Representatives:

District	Representative	Reason
3	Jim Whorton (D)	Term limited
7	John Quinn (R)	Term limited
13	Bob Onder (R)	Running for Congress
20	Danie Moore (R)	Term limited; running for state Senate
23	Jeff Harris (D)	Running for AG
25	Judy Baker (D)	Running for Congress
43	Craig Bland (D)	Term limited
44	Jenee Lowe (D)	Term limited
58	Rodney Hubbard (D)	Running for state Senate
61	Connie Johnson (D)	Planned to run for state Senate
63	Robin Wright-Jones (D)	Running for state Senate
67	Mike Daus (D)	Term limited
71	Ester Haywood (D)	Term limited
73	Margaret Donnelly (D)	Running for AG
78	Clint Zweifel (D)	Running for Treasurer
81	Juanita Head Walton (D)	Term limited
82	Sam Page (D)	Running for Lieutenant Governor
85	Jim Lembke (R)	Running for state Senate
86	Jane Cunningham (R)	Running for state Senate
88	Neil St. Onge (R)	Running for state Senate
91	Kathlyn Fares (R)	Term limited
92	Bob Portwood (R)	Term limited
108	Tom Villa (D)	Term limited
120	Shannon Cooper (R)	Term limited
121	David Pearce (R)	Running for state Senate
127	Steve Hunter (R)	Term limited
136	B.J. Marsh (R)	Term limited
144	Van Kelly (R)	Term limited
149	Bob May (R)	Term limited
156	Rod Jetton (R)	Term limited

### Senate

Several Senators will not be returning regardless of the results of the November elections:

District	Representative	Senator
1	Harry Kennedy (D)	Term limited
5	Maida Coleman (D)	Term limited
7	John Loudon (R)	Term limited
12	Brad Lager (R)	Running for Treasurer
15	Michael Gibbons (R)	Running for AG
31	Chris Koster (D)	Running for AG

In addition, elections for odd-numbered Senate districts will take place in November. Accordingly, the following Senators are up for re-election this year:

District	Senator
3	Kevin Engler (R)
9	Yvonne Wilson (D)*
11	Victor Callahan (D)*
13	Tim Green (D)
17	Luann Ridgeway (R)
19	Chuck Graham (D)
21	Bill Stouffer (R)
23	Tom Dempsey (R)
25	Rob Mayer (R)
27	Jason Crowell (R)
29	Jack Goodman (R)*
33	Chuck Purgason (R)

\* No one has filed to run against these Senators.

### **MDHE Employees' Suggestions for Legislative Proposals for 2009**

- Strengthen proprietary certification statutes
- Update statutes creating scholarship programs to ensure the programs may be administered fairly and sensibly
- Improve the MDHE's ability to collect the data that will be necessary to assess the implementation of the coordinated plan
- Establish scholarships to incent students to pursue areas in which there is a critical need for new workers
- Strengthen the MDHE's student loan guaranty program, including improving the MDHE's ability to prevent student loan default and to collect amounts owed by defaulted debtors

## AGENDA ITEM SUMMARY

### AGENDA ITEM

Fiscal Year 2009 Budget Update  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

The purpose of this item is to update the Board on the current status of the supplemental operating and capital budgets for FY 2008 and the operating and capital budgets for FY 2009.

#### Supplemental Budgets

**House Bill 2014** is the FY 2008 regular supplemental operating budget that has been signed by the Governor. It includes the following items that pertain to the department:

- an additional \$630,000 to maintain full funding of the “Bright Flight” program,
- an additional \$24,000 to maintain full funding of the Public Service Survivor Grant program, and
- \$800E from the Advantage Missouri Trust Fund to allow refunds to participants who overpaid their obligations.

**House Bill 2019** is the supplemental budget for the Lewis and Clark Discovery Initiative. It includes \$31,182,000 for the Ellis-Fischel Cancer Center project at the University of Missouri-Columbia and \$15,000,000 for the Pharmacy/Nursing Building at the University of Missouri-Kansas City. It has been signed by the Governor.

**House Bill 2020** is the supplemental capital budget that has been signed and approved by the Governor. It includes \$500,000 each for Missouri State University and the Missouri University of Science and Technology for a cooperative engineering program.

#### Department Budget

**House Bill 2003** has been Truly Agreed and Finally Passed (TAFP) by the General Assembly and now awaits the action of the Governor. HB 2003 includes the CBHE and Governor’s recommendation for the transfer of 5.5 FTE out of the expired GEAR UP grant administrative appropriation to support critical priority issues and statutory responsibilities elsewhere in the department. The recommendation is for 4.0 FTE to be reallocated to add personnel to, among other things, enhance data collection and analysis, increase efforts to reduce the number of diploma mills operating in Missouri, and fulfill other new statutory duties assigned to the department. In addition, \$197,657 in GR funds was also approved by the General Assembly to support these 4.0 FTE as entry-level research associate positions.

Coordinating Board for Higher Education  
June 12, 2008

HB 2003 also includes the reallocation of 1.5 GEAR UP FTE to the Loan Program administration to improve service and marketing, ensure compliance with state and federal laws, and maintain market share in a competitive financial environment. No additional dollar appropriation authority is required to support this FTE reallocation for the Loan Program.

The budget bill also includes an additional \$300,000 as recommended by the CBHE and Governor that will be used to outsource and contract for additional services. However, the General Assembly funded \$200,000 out of General Revenue and \$100,000 from the Guaranty Agency Operating Fund.

In addition, the General Assembly approved a 3 percent reduction to several state departments' existing expense and equipment budgets. This reduction will result in a core cut to the MDHE's E&E budget of \$3,985.

HB 2003 also includes the Governor's recommendation for a 3 percent pay increase for all department employees.

### **Student Financial Assistance Programs**

The TAFP version of **HB 2003** includes an increase of approximately \$48.7 million for the Access Missouri Scholarship Program to increase the total spending authority for this program to approximately \$95.8 million for FY 2009.

The bill also includes the Governor's recommendation of \$39,290 for additional qualifying students in the Public Service Survivor Grant program.

### **College and University Operating Budgets**

The TAFP version of **HB 2003** includes the CBHE and Governor's recommendation for the second year installment of the commitment to increase the base operating budgets of public institutions. The recommended increase is for a total of \$40.2 million, which represents, in total, an average increase of 4.4 percent.

The General Assembly did not recommended any funding for the "Preparing to Care" initiative designed to increase the number of graduates in professional health fields from Missouri public institutions of higher education. The Governor's recommendation for this initiative was \$13.4 million, roughly a third of the total CBHE request.

House Bill 2003 also includes \$450,000 for the Missouri Southern State University distance dental hygiene program, which is less than the Governor's recommended funding of \$600,000.

### **Capital Improvements**

**House Bill 2023** is the FY 2009 capital improvements bill that has been approved by the General Assembly and awaits action from the Governor. HB 2023 includes funding for the following items related to higher education:

- \$10,000,000 for the Vehicle and Power Center at Linn State Technical College;
- \$5,000,000 for the Thompson Center for Autism and Neurodevelopmental Disorders on the University of Missouri-Columbia campus;
- \$2,000,000 for a student safety complex at Missouri Southern State University;
- \$2,000,000 to the University of Missouri for the planning, design, renovation, and improvements at Missouri Agricultural Experiment Station facilities;
- \$820,000 to Southeast Missouri State University for debt service payments at their Sikeston facilities and for renovation and improvements at their Perryville facilities;
- \$600,000 to the University of Missouri for the planning and design of a new State Historical Society building;
- \$300,000 for the planning and design of a new Nursing and Optometry School on the University of Missouri-Saint Louis campus;
- \$300,000 for the planning and design of new Nursing/Health Professions School on the University of Missouri-Columbia campus; and
- \$300,000 for an expansion study for the University of Missouri-Kansas City Dental School.

### **Other Items**

House Bill 2003 also includes the following FY 2009 operating increases, which are equal to the Governor's recommendation for these other items. These items are:

- \$15,000E from the Advantage Missouri Trust Fund to allow refunds to participants who have overpaid their obligations;
- \$5,000 to cover increased dues for the Midwest Higher Education Compact;
- \$437,640 for the Missouri Telehealth Network; and
- \$100,000 for the State Historical Society.

### **STATUTORY REFERENCE**

Sections 173.005(2), 173.030(7) RSMo

### **RECOMMENDED ACTION**

This is an information item only.

### **ATTACHMENT**

None

## AGENDA ITEM SUMMARY

### AGENDA ITEM

Omnibus Bill Update  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

This item provides an update on the MDHE's progress in implementing the provisions of SB 389, which became law August 28, 2007.

#### Discussion

As indicated on the attached matrix, MDHE staff continue to work toward full implementation of SB 389. The two most significant areas of progress since the April board meeting are the Curriculum Alignment Initiative (CAI) and the identification of performance measures.

#### Curriculum Alignment Initiative

MDHE staff have completed major segments of the CAI. Institutions have collaborated with the commissioner of higher education and his staff on the development of competencies for beginning general education courses in key disciplines. A more thorough discussion and recommended action on CAI is provided in Tab D of this board book.

#### Performance measures

In addition, MDHE staff have continued work on the development of performance measures, as required by SB 389. The language of the law (§173.1006.1, RSMo) provides:

The following performance measures shall be established by July 1, 2008:

- (1) Two institutional measures as negotiated by each public institution through the department of higher education; and
- (2) Three statewide measures as developed by the department of higher education in consultation with public institutions of higher education. One such measure may be a sector-specific measure making use of the 2005 additional Carnegie categories, if deemed appropriate by the department of higher education.

MDHE staff have worked with representatives of institutions to identify a number of performance measures that will be used to assess the implementation of the CBHE's coordinated plan for higher education. These measures will constitute the "statewide measures" required by § 173.1006.1(2), RSMo.

Coordinating Board for Higher Education  
June 12, 2008

The law also requires that the MDHE work with each institution to negotiate institution-specific performance measures. The MDHE is aware that many institutions currently have in place a variety of measures, and has asked each institution to submit a minimum of two measures that will constitute the measures required by § 173.1006.1(1), RSMo, by June 18, 2008.

## **STATUTORY REFERENCE**

Section 173.005.2(7)(10), RSMo, Curriculum Alignment, Fines

Section 173.125, RSMo, Dispute Resolution

Section 173.360.2, RSMo, Lewis and Clark Discovery Fund

Section 173.1003.5, Tuition Stabilization

Section 173.1004, RSMo, Website Information

Section 173.1101-1107, RSMo, Access Missouri

Chapter 173, RSMo; Section 33.210-290, RSMo; Section 163.191, RSMo; Higher Education  
Funding Task Force

## **RECOMMENDED ACTION**

This is an information item only.

## **ATTACHMENT**

Omnibus Bill Implementation Matrix

SENATE BILL 389  
IMPLEMENTATION UPDATE

Program	Description	Implementation Timeline		Current Status
Joint Committee on Education ("JCE")	The JCE's scope is expanded to include several components associated with higher education.	Immediate	MDHE will begin reporting to JCE on higher education issues	There are no current requests for information from the JCE.
		August 28, 2010	MDHE report on the impact of tuition stabilization to the JCE	
Missouri Teaching Fellows Program	Creates the Missouri Teaching Fellows Program, which will offer loan forgiveness and stipends to individuals who teach in unaccredited school districts. The program will be administered by the MDHE.	2007-08	First participants must be recruited	The FY 2009 budget request included funds to address this new position and additional outreach activities. The Department received some additional funding that will allow for limited outreach. The legislative sponsor of this measure has provided some publicity, and the MDHE has posted a program description and an information request form on its website.  LINK: <i>Information about program:</i> <a href="http://www.dhe.mo.gov/moteachingfellows.shtml">http://www.dhe.mo.gov/moteachingfellows.shtml</a>
		2013-2014	First loan forgiveness payments/stipends must be paid	
		September 1, 2014	Program sunsets (unless reauthorized)	
Transfer and articulation	Public institutions must work with the MDHE to establish agreed-upon competencies for all entry-level collegiate courses in key disciplines. The CBHE must establish policies to ensure transferability of core course credits.	2008-09 academic year	Competencies and guidelines must be implemented	Draft entry- and exit-level competencies from the discipline workgroups have completed review by the Steering Committee. Work has begun to develop cross-disciplinary competencies. The Steering Committee will present a full report on the CAI at the June 2008 board meeting.  LINK: <i>Curriculum Alignment Initiative website:</i> <a href="http://www.dhe.mo.gov/casinitiative.shtml">http://www.dhe.mo.gov/casinitiative.shtml</a>
Fines for non-compliance with CBHE rules and policies	Public institutions that willfully disregard CBHE policy can be fined up to 1% of their state appropriation.	August 28, 2007	Statute becomes effective	The policy on fining institutions that willfully disregard CBHE policy was approved at the February 2008 board meeting. That policy is now in effect.  LINKS <i>Policy on Fines:</i> <a href="http://www.dhe.mo.gov/files/finesforwillfuldisregard.doc">http://www.dhe.mo.gov/files/finesforwillfuldisregard.doc</a> <i>All CBHE Public Policies:</i> <a href="http://www.dhe.mo.gov/files/cbhepublicpolicies_0208.doc">http://www.dhe.mo.gov/files/cbhepublicpolicies_0208.doc</a>
Out-of-state public institution standards	Out-of-state public institutions must be held to the same standards as Missouri institutions for program approval, data collection, cooperation, and resolution of disputes.	July 1, 2008	Rules must be promulgated	Out-of-state public institutions will be exempt from proprietary school certification effective on July 1, 2008. Out-of-state publics will not be required to seek recertification for the 2008-09 certification year and their certificates of approval will be allowed to lapse on June 30, 2008. All out-of-state public institutions currently approved as proprietary schools have been notified of their change in

Program	Description	Implementation Timeline		Current Status
				<p>status and the requirement to submit all degree programs through the program approval process used for Missouri public institutions. In addition, a proposed rule on this subject has been filed with the Secretary of State and published in the <i>Missouri Register</i>.</p> <p>LINKS            CBHE-approved rule: <a href="http://www.dhe.mo.gov/files/outofstate_publicinst.doc">http://www.dhe.mo.gov/files/outofstate_publicinst.doc</a>  <i>Missouri Register</i> rule filing: <a href="http://www.sos.mo.gov/adrules/moreg/current/2008/v33n2/v33n2b.pdf">http://www.sos.mo.gov/adrules/moreg/current/2008/v33n2/v33n2b.pdf</a></p>
"No better than free"	No student shall receive need-based assistance that exceeds the student's cost of attendance. This does not include loans or merit-based aid.	August 28, 2007	Statute becomes effective	Staff has provided ongoing guidance and technical assistance to institutional staff concerning the impact of this provision on Access Missouri awards. This has been accomplished through responses to individual inquiries, periodic electronic and regular mail contact, fall workshops, and presentations at financial assistance meetings.
Binding dispute resolution	In order to receive state funds, public institutions must agree to submit to binding dispute resolution to address grievances about jurisdictional boundaries or the use or expenditure of state resources. The Commissioner of Higher Education will preside over the dispute resolution.	August 28, 2007	Statute becomes effective	<p>The board adopted a policy on this subject at its December 2007 meeting. That policy is now in effect.</p> <p>LINK:  <i>Policy:</i> <a href="http://www.dhe.mo.gov/files/disputeresolution.doc">http://www.dhe.mo.gov/files/disputeresolution.doc</a></p>
Higher Education Academic Scholarship Program ("Bright Flight")	The existing Bright Flight scholarship is revised to include students whose ACT/SAT scores are in the top 3% to 5% of all Missouri test-takers. Scholarships awards are increased to \$3,000 for those in the top 3 % and established at \$1,000 for the 3% to 5% range.	January 1, 2010	FAMOUS system changes must be completed	<p>Public materials (website and publications, etc.) have been revised to provide early notification to students of this change to the Bright Flight program. Financial assistance staff is developing a model to estimate the fiscal impact of this change in preparation for an appropriation request for FY 2011. Preliminary discussions have also begun regarding the changes necessary in the administrative rule and the automated payment system (FAMOUS).</p> <p>LINK:  <i>Information about Bright Flight program:</i> <a href="http://www.dhe.mo.gov/brightflight.shtml">http://www.dhe.mo.gov/brightflight.shtml</a></p>
		June/July 2009	Appropriation request for FY 2011 must be developed to include updated scholarship amounts	
		July 2010	Rule changes must be complete	
		August 2010	New scholarship award amounts become effective	
Lewis & Clark Discovery Initiative ("LCDI")	Creates a fund into which MOHELA distributions will be deposited. LCDI may only be used for capital projects at public institutions or to support the Missouri Technology Corporation. Institutions that	August 28, 2007	Statute becomes effective	<p>MOHELA has made scheduled transfers totaling \$240 million. Institutions may request reimbursement for expenses incurred on approved projects on a monthly basis.</p> <p>According to the cash flow management schedule developed by the MDHE and</p>

Program	Description	Implementation Timeline		Current Status
	knowingly employ professors or instructors found guilty of certain crimes are ineligible to receive money through the LCDI.			the division of budget and planning, all projects under \$5 million may receive up to 100% reimbursement for FY 2008. For all other projects, reimbursements may total up to 80% of total appropriations between FY 2008 and FY 2009 combined, with an additional 10% available in FY 2011. Reimbursement payments totaling \$61.8 million have been made as of March 15.
Higher Education Student Funding Act (also known as tuition stabilization)	Establishes limits on tuition increases based on each public institution's tuition in relation to the statewide average and CPI. Institutions exceeding the limits can be fined up to 5% of their state appropriation unless a waiver is sought and approved by the Commissioner of Higher Education. Community colleges are not subject to these limits unless their average tuition for out-of-district students exceeds the state average.	2008-09 academic year and each academic year in the future	CBHE must review data submitted by institutions about tuition changes and make determinations about any waivers sought	<p>The Higher Education Funding (HEF) Task Force's discussions have included the identification of goals for the amount of resources needed to deliver high quality education to students. This segment of a new funding policy will have direct implications for granting waivers to tuition limitations.</p> <p>In addition, the board approved a policy to implement the "tuition stabilization" portion of the law during a December 2007 meeting. That policy is now in effect.</p> <p>MDHE staff notified institutions that the percent change in the CPI during 2007 was 4.1%. Each institution must provide the Commissioner with its notice of tuition change by July 1. As of June 3, no institution has exceeded its statutory limit on tuition and fee increases.</p> <p>LINK: Policy: <a href="http://www.dhe.mo.gov/files/studentfundingact.doc">http://www.dhe.mo.gov/files/studentfundingact.doc</a></p>
Consumer information	The CBHE must promulgate rules and regulations to ensure that public institutions post on their websites academic credentials of all faculty (adjunct, part-time, and full-time); course schedules; faculty assignments; and, where feasible, instructor ratings by students; as well as which instructors are teaching assistants.	August 28, 2007	Statute becomes effective	<p>The board approved the filing of an administrative rule to implement these provisions of the new law at its October 11, 2007, meeting. The rule has been filed.</p> <p>The rule requires that institutions post general course information by August 1, 2008, and that institutions post faculty evaluations to inform students registering for fall 2009 classes.</p> <p>LINKS: CBHE-approved rule: <a href="http://www.dhe.mo.gov/files/consumerinformation.doc">http://www.dhe.mo.gov/files/consumerinformation.doc</a> Final regulation in the Code of State Regulations: <a href="http://www.sos.mo.gov/adrules/csr/current/6csr/6c10-9.pdf">http://www.sos.mo.gov/adrules/csr/current/6csr/6c10-9.pdf</a></p>
Performance measures	Institutions and the MDHE must develop institutional and statewide performance measures. The MDHE must report on progress developing statewide measures to the Joint Committee on Education at least twice a year. The MDHE must develop a procedure for reporting the effects of	July 1, 2008	Performance measures must be established	The coordinated plan includes numerous measures on key state goals. Once adopted at the June 2008 CBHE meeting, these will serve to fulfill the statutory obligation to identify three state-level performance measures. Requests have been sent to each public institution to submit at least two institution-specific performance measures for inclusion in the report on performance measures that will be sent to the joint committee on education on July 1, 2008. MDHE will continue work with presidents and chancellors on the procedure for reporting the

Program	Description	Implementation Timeline		Current Status
	performance measures to the Joint Committee on Education in an appropriate timeframe for consideration in the appropriation process.			effects of performance in adequate time for consideration in the appropriations process.
Access Missouri Financial Assistance Program	Establishes Access Missouri as the state's single need-based financial assistance program, to be administered by CBHE. Award ranges vary by institutional sector and expected family contribution ("EFC"). No student who is found or pleads guilty to certain criminal offenses while receiving financial aid is eligible for renewed assistance. In the event of budget shortfalls, the maximum award will be reduced across sectors; for surplus, the maximum EFC allowed will be raised. Assistance provided to all applicants from any other student aid program, public or private, must be reported to the CBHE by the institution and the recipient.	September 2007	Program must be administered and students will receive Access Missouri financial assistance	MDHE financial aid materials were revised to include information about Access Missouri and distribution of funds under the new program began on September 4, 2007. The final administrative rule pertaining to Access Missouri is now in effect. In January, award amounts to students were increased to 85% of the statutory maximum as information about the initial cohort of recipients became known. As a result, distributions under the program were sufficient to expend the appropriated funds (\$72 million). Staff have begun the process of developing benchmark and performance measures intended to inform the periodic adjustment of award amounts and sunset processes.  LINK: <i>Final regulation in the Code of State Regulations:</i> <a href="http://www.sos.mo.gov/adrules/csr/current/6csr/6c10-2.pdf">http://www.sos.mo.gov/adrules/csr/current/6csr/6c10-2.pdf</a>
		August 2009 and every 3 years thereafter. Program will sunset at the end of FY 2013, unless reauthorized.	Award amounts may be adjusted to reflect inflation indicated by the CPI	

*Date of most recent revision: 3.19.08*

## AGENDA ITEM SUMMARY

### AGENDA ITEM

Coordinated Plan Update  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

State law charges the CBHE with the critical task of developing a coordinated plan for higher education in Missouri. A coordinated plan has tremendous potential to focus attention on higher education's role in advancing key state priorities, describing how higher education will evaluate its progress toward shared goals, and suggesting strategies for continuous improvement.

For the past two years, work has progressed in designing a new planning document to replace Critical Choices, which was the last coordinated plan adopted by the CBHE over 15 years ago. Ultimately, the new coordinated plan ("The Plan") is intended to demonstrate the value of higher education, foster increased understanding of the importance of higher education, and result in expanded resources. The Plan and the annual reports that will be generated based on its outline will inform the work of those who lead higher education institutions in the state. Those documents must also be meaningful to elected officials, business and community leaders, and the public. The intent of this agenda item is to present The Plan for Missouri's higher education system to the CBHE for review and action.

### Background

Over the years, Missouri, like most states, has had its share of master plans for and public reporting on its higher education system. In the early years, these reports focused heavily on scope and magnitude descriptions of system characteristics while at the same time calling for innovation. It is interesting to note that some of the objectives in higher education planning documents from over 35 years ago included the following:

- Greater inter-institutional collaboration including joint public/private academic endeavors
- More equitable financing in areas of common activity
- Increased support for institutional uniqueness
- Expanded student financial assistance
- Smoother transfer of academic credits
- Alternative funding sources

While many of these issues remain important, reports generated from planning documents in more recent times have tended to place a greater emphasis on performance. Although different strategies have been used and reports have varied in format and content, common threads have included an interest in demonstrating quality of student learning, increasing access through more need-based financial aid, increasing degree productivity, and increasing public understanding of

Coordinating Board for Higher Education  
June 12, 2008

the value of higher education while at the same time using data to drive continuous improvement.

### **Process for Creation of The Plan**

In April 2006, the Coordinating Board discussed the importance of a higher education accountability system for the state and agreed to make this issue a priority for future work. By June 2006, the board had established a standing strategic planning committee comprised of board members. Based on Missouri's highly decentralized system, the board committed to using a consensus-driven process to develop a new coordinated plan that would have widespread support across institutions, would avoid simply creating a performance reporting structure driven by a compliance mentality, and would provide a framework for achieving a competitive advantage. At the same time, there was acknowledgement that the new plan should also be used to drive funding strategies including a re-implementation of performance funding for a small portion of new funds.

In the fall of 2006, institutions began working with MDHE staff to develop a revised accountability framework that would be driven by a new coordinated plan. There was general agreement that specific tangible goals and indicators should be developed that would transparently illustrate challenges faced by higher education and agreed-upon targets to drive change. Based on the demands related to the higher education omnibus bill during and after the 2007 legislative session, efforts at developing a new plan were slowed until fall 2007. Constituents agreed that a new plan should serve as a guide to institutions as they balance individual aspirations with collective contributions in support of a strong postsecondary educational system that is responsive to statewide goals and educational needs and is adequately funded.

Between fall 2007 and February 2008, extensive work was completed in consultation with presidents and chancellors and their designees, and with CBHE members, that resulted in the establishment of an agreed-upon framework that embraces the various missions of Missouri's colleges and universities. *Imperatives for Change: Building a Higher Education System for the 21<sup>st</sup> Century* was adopted by the CBHE at its February 2008 meeting as the conceptual document to be used for the development of the operational segments of The Plan (i.e., goals and measures). The Plan (Attachment A) includes three major strategic issues:

- Increase Educational Attainment
- Develop a 21<sup>st</sup> Century Society and Global Economy
- Enhance Resources through Increased Investment, Stewardship, and Responsibility

Within each issue are several goals, objectives, and suggested actions. In the time since February 2008, there has been extensive writing and rewriting of the goals, objectives, and indicators of progress by working with a group of institutional representatives. In addition, presidents and chancellors have regularly participated in providing critiques and constructive suggestions. While progress has been made at developing a consensus document, several challenges as well as disagreements remain.

## **The Plan**

Attached for review is the latest draft of *Imperatives for Change: Building a Higher Education System for the 21<sup>st</sup> Century*. In developing this version of The Plan, MDHE staff has incorporated several editorial and format changes to earlier drafts, made some substantive changes, and identified particularly challenging areas that require further discussion for resolution. Included in this latter category are the following:

- Level of specificity for goal and objectives
- Whether to include indicators only or also contributing factors
- Whether to include objectives and indicators of progress on the preparation level of students in the pipeline
- Wording and indicators of progress for objectives on affordability of postsecondary education
- Appropriate indicators of progress for teacher quality
- Appropriate indicators of progress for student learning outcomes
- Indicators of progress for deletion
- Operational measures, baseline data, benchmarks, and agreed-upon targets

The introduction, vision statement, and basic values sections of The Plan remain relatively similar to earlier drafts with some minor editorial changes. It should also be noted that potential action steps were added for the objective on student learning outcomes since they were inadvertently left out of recent drafts. Because all potential action steps are illustrative and not required, changes to other action steps were not made.

## **Areas Requiring Further Discussion**

### **Goal Statements and Indicators**

Concerning the goals and indicators in previous drafts, most agree there will be annual reports on progress but some disagree on the way to structure the goals and to present data. There has been much discussion about the level of specificity that should be included in each statement (whether to be more abstract or to indicate specific targets and timelines directly) and whether the indicators should only be direct measures or whether some indirect measures should also be included. Some institutional personnel have registered concerns that indirect measures should not be included since improvement or regression on those indicators may not affect the goal, e.g., increased credit hours may not necessarily lead to increased numbers of credentialed persons. Others argue that the indirect measures are important to track and become contributing factors that inform analyses about results.

In this latest draft of The Plan, the goal statements have been reformatted to provide a clearer distinction between conceptual goals and operational objectives. Previous drafts included an overarching goal for each strategic issue. In the current draft, each of these overarching statements is presented as a major conceptual goal. Consequently, The Plan now has only three major goals that cover the following:

- I. Improve educational attainment
- II. Contribute to a dynamic, information-based, globally competitive society and economy
- III. Increase external financial support for higher education

Goal statements 1 through 11 from previous drafts have been renumbered and grouped as objectives under each conceptual goal. Indicators are regrouped as well. Rather than list all indicators, less direct indicators are grouped under the category of contributing factors to distinguish that they are not a direct measure of the objective.

### **Preparation Level of Students in the Pipeline**

Debate has also involved the appropriateness of including an objective and indicators about students in the pipeline, e.g., college attendance rates of 9<sup>th</sup> grade cohorts, ACT test taking patterns, percent of entering freshmen requiring remediation. Some institutional personnel point out that higher education has limited impact on these behaviors and that it is the primary responsibility of other entities. Others counter that there should be shared responsibility for improving preparation of students in the pipeline, and that higher education can and should play a more engaged role in trying to impact what transpires before students enter postsecondary education.

In the current draft of The Plan, this section is shaded indicating a need for further discussion. Prior to finalizing this objective and determining appropriate indicators, it may be appropriate to work with others including the State Board of Education, the Department of Elementary and Secondary Education, and other P-12 organizations with the intent to establish a joint objective and related indicators agreed to by all parties.

### **Wording and Indicators for Affordability of Postsecondary Education**

This issue, which is currently Objective 1B under Goal 1, has a direct relationship to state and national calls to ensure affordability of higher education for all economic groups. Personnel from public institutions have consistently raised concerns especially since so many factors about the net price of public higher education are affected by the amount of state appropriations to public institutions and state aid available to students.

Staff has reworked this issue several times, but there is still discomfort with the concepts. In the current draft of The Plan, this section is shaded as a flag to indicate the need for further discussion. MDHE staff believes that affordability as an issue is essential to include in the plan as an objective along with a set of appropriate indicators. The department encourages further dialog toward developing a reasonable solution that does not ignore the fiscal realities faced by Missouri public institutions while at the same time underscoring indicators that track the affordability of Missouri institutions, especially for low and middle income families.

### **Appropriate Indicators for Student Learning Outcomes**

In the previous draft several indicators were also suggested for student learning outcomes, especially those connected to outcomes associated with learning gains in general education. As

described in previous drafts, strong concerns were expressed about using national standardized tests that are viewed by some as overly burdensome, impractical, and highly likely to yield unreliable results. Others expressed equally strong opinions that some measures of general education must be included. Underneath this disagreement are methodological questions about sampling and concerns related to the relevance and cost of particular instruments. The current draft continues to list all of the indicators previously suggested and shades this section indicating the need for further discussion.

From the perspective of staff, it is not clear what benefits will occur if standardized tests are used as the only measure and are administered to only a small sample of students. While use of such tests does have value in providing institutional standing relative to others, it has not been very successful in advancing learning gains. Furthermore using student outcome measures that do not have faculty support will only result in an accountability exercise with limited utility for improving outcomes over time.

The MDHE staff recommends that serious consideration be given to developing a pilot project (proof of concept) focused on one or two skill sets, e.g., writing ability and critical thinking, and that samples of student work (chosen randomly) be evaluated by state level faculty panels administered by the MDHE. Using samples of student work from entering and exiting students may be a way to validate learning gains and position Missouri to be a leader in this arena. This would be in addition to standardized tests, when used.

### **Indicators for Deletion**

While there is general consensus that the previous draft contained too many indicators, agreement does not exist about which indicators to eliminate. Some institutional personnel have recommended eliminating all indicators that are not direct measures of an objective. Others have recommended that a separate tracking system should be maintained for some indicators, but they should not be included in The Plan. Still others have suggested that all new indicators or ones that would be costly to collect should be eliminated.

While new data should not be eliminated outright, it might be prudent to limit the number of new data collections required. In support of this notion and to help inform decisions about indicator elimination, a list is provided in Appendix A that provides information for each indicator identifying whether the data already exists, and if so, the data source. It is also important to note that the dynamic nature of The Plan means that some indicators could be eliminated at a later point in time, especially if they become too difficult to collect or if it becomes clear that their usefulness is limited.

### **Operational Measures, Baseline Data, Benchmarks and Agreed-upon Targets**

From the beginning it has been acknowledged that The Plan will need to include operational measures, baseline data, benchmarks, and agreed-upon targets that require “a stretch” but allow a reasonable time period for achievement. Some indicators clearly communicate an operational measure by their label, e.g., number of degrees and certificates awarded, though if disaggregated by demographic groups, which groups to include will need to be defined. Others are less clear,

e.g. does “persistence” mean returning a second year regardless of institution attended and number of credits accrued, or will there be some stipulations? Clarification about operational measures should be done in consultation with presidents and chancellors and designees immediately following adoption of The Plan.

The establishment of baseline data and benchmarks is also an important step for determining specific targets for objectives. Without such data, establishing a target would be somewhat, if not completely, arbitrary. A bold target may draw attention and get media coverage, but without sound rationale it is likely to lose its impact and is less likely to be taken seriously.

Another factor that will help set targets is the development of important contextual information when available. MDHE staff has begun to collect this type of information. Appendix B of The Plan provides an illustration of the type of contextual information that would be helpful in setting targets for objectives 1A, 1B and 1C.

MDHE staff suggests that the baseline year for all data points be FY 2007 or the most recent year in which data is available. Furthermore, MDHE staff believes that targets should be developed for FY 2015 in consultation with presidents and chancellors and designees only after indicators are adopted by the board and contextual information is gathered, and that the process of establishing baseline data, benchmarks, contextual information, and targets should happen on a short timeline.

### **Next Steps**

MDHE staff will continue to review constructive suggestions received from institutions, sector organizations, and individuals between the date the board book is published and the CBHE meeting on June 12, 2008. This board item describes the intent of The Plan, clarifies the processes that have occurred to date, and underscores the importance of moving the process forward.

Several areas are flagged that require further discussion and in some cases specific suggestions have been offered. The CBHE meeting provides an opportunity for more engaged discussion and closure on some of these issues. At the end of the discussion, the CBHE should determine which objectives and indicators to approve, which to eliminate, and on which, if any, to delay action. Only those items that the board believes would benefit from further discussion beyond the June 12, 2008 meeting should be left open with a stipulated time period for resolution and presentation to the board for action.

### **Conclusion**

Without a coordinated statewide higher education plan and regular performance reports, Missouri will be missing important guideposts to set direction, measure progress, and document our collective contributions to the educational and economic strength of the state. While any plan is a dynamic document and will regularly undergo change and refinement, moving forward with some objectives and measures is an essential step. The Plan should capture the attention and support of elected officials and the lay public regarding the value and importance of higher

education as a national, state, and local priority, especially as a new Governor and many new Senators and Representatives take office.

## **STATUTORY REFERENCE**

Section 173.020 (4), RSMo. The coordinating board's responsibilities include identifying higher education need in the state and designing a coordinated plan for higher education.

## **RECOMMENDED ACTION**

**It is recommended that the Coordinating Board weigh the feedback on The Plan discussed by presidents and chancellors and MDHE staff during the June 12, 2008 meeting and adopt The Plan, in whole or in part, with the understanding that work will continue on resolving any open areas and on the development of clear operational measures, baselines, benchmarks, and targets.**

**It is further recommended that this next phase of work on The Plan be completed by August 1, 2008.**

## **ATTACHMENT**

Imperatives for Change: Building a Higher Education System for the 21<sup>st</sup> Century

*Imperatives for Change:  
Building a Higher Education System for the  
21<sup>st</sup> Century*

**A Coordinated Plan for the Missouri Higher  
Education System**

**Coordinating Board for Higher Education  
June 12, 2008**

***Imperatives for Change:  
Building a Higher Education System for the 21<sup>st</sup> Century***

**Introduction**

The rapidly changing social and economic environment presents profound challenges to all states and nations. More than ever, in the knowledge-based economy of the 21<sup>st</sup> century, higher education is the gateway to an improved standard of living for Missouri's citizens. The imperative for change is clear: those educational systems that adapt to the new environment will be positioned to lead their states to succeed in a globally competitive world.

The collective challenge to the higher education system is to understand the key components of the environment and to devise effective strategies that will capitalize on strengths while addressing weaknesses in challenging financial times. Providing the vision, the stable and sufficient resources, and the collective action to support a higher education system that ensures the future prosperity of Missouri citizens, the state of Missouri, and the nation is necessary to address the most important challenges of the day.

*Imperatives for Change* provides a vision that has been developed collaboratively by Missouri's higher education institutions and the Coordinating Board for Higher Education. This plan will serve for the next three to five years as a foundation for prioritizing goals, justifying an increased resource base, allocating resources, and implementing dynamic strategies to provide Missouri citizens with the educational opportunities they need to be competitive on a global scale.

***Mission Statement***

*The Coordinating Board for Higher Education, the Missouri Department of Higher Education, and the state's institutions of higher education will work collaboratively to support a diverse system of affordable, accessible, high-quality educational institutions that demonstrate student learning and development, encourage and support innovation, foster civic engagement, enhance the cultural life of Missourians, and contribute to economic growth.*

***Vision Statement***

*Missouri's higher education will be an innovative and coordinated system of diverse postsecondary institutions that benefits Missouri and the nation by equipping all Missouri citizens for personal and professional success in the 21<sup>st</sup> century and that is moving towards becoming one of the best in the nation.*

## Basic Values

Missouri's higher education community is united in its commitment to the following core values.

- ❖ Higher education in Missouri serves many purposes and constituencies, but first and foremost the system is focused on students, learning, and each individual's realization of their full educational potential.
- ❖ Qualified students should be able to attend the higher education institution that best fits their educational goals and needs regardless of cost.
- ❖ Access without success is an empty promise. Missouri's higher education institutions are dedicated to providing nationally and internationally competitive educational programs, research, and extension services to ensure their students have the knowledge and skills necessary for success in the 21st century, including the ability to think critically, to communicate effectively, and to be life-long learners.
- ❖ Diversity of institutional missions is a strength of the system that must be preserved.
- ❖ Higher education is a public good as well as a private benefit, contributing both to economic development and civic engagement.
- ❖ Basic and applied research, the creation of knowledge, and the application of information to solve problems are basic functions of the higher education system that must be recognized and supported.
- ❖ The higher education community is dedicated to making decisions based on reliable and transparent data.
- ❖ The higher education community values the appropriate use of technology to enhance programs, services, research, and administration.
- ❖ Public accountability for learning outcomes and stewardship of public funds are priorities for Missouri's higher education institutions.
- ❖ Ensuring the continued affordability and effectiveness of Missouri's higher education system requires a partnership among the institutions, the state, and other stakeholders.

# **Strategic Issues, Goals, and Action Steps**

## **Strategic Issue: *Increase Educational Attainment***

**GOAL 1:** Missouri's higher education system will improve educational attainment, including certificate and degree production at all levels, to enhance the quality of Missouri's workforce and the quality of life of its citizens.

**Objective 1A:** *Increase the percent of Missouri citizens who possesses a postsecondary credential.*

### **Indicators**

- 1) Percentage of the population aged 25 to 64 who hold a degree or certificate, for the state as a whole and disaggregated by demographic groups and regions
- 2) Number of degrees and certificates awarded, disaggregated by demographic groups

### **Contributing Factors**

- a) Number of postsecondary credit hours delivered
- b) Community college transfer student success rate

**These action steps may be taken as appropriate:**

- ✓ Raise the aspirations of those who do not see postsecondary education within their reach;
- ✓ Increase postsecondary access for, and success of, historically under-represented groups;
- ✓ Develop incentives that reward institutions that increase degree production and retention rates while demonstrably sustaining quality within programs;
- ✓ Expand opportunities for non-traditional learners through course redesign, alternative methods of program delivery, and better coordination of distance education; and
- ✓ Create incentives and standards for seamless student transitions between educational institutions.

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**NOTE:** This section requires further discussion.

**Objective 1B:** *Net cost of postsecondary education as a percent of average family income will not increase.*

**Indicators**

- 1) Percentage of state average family income required to pay for college after grant and scholarship aid, for the “average student” and disaggregated by demographic groups, educational sector, and income levels (for public institutions, this indicator will also include changes in state operating appropriations)
- 2) Total financial aid dollars awarded to Missouri students for need-based financial aid and for other forms of financial assistance, disaggregated by educational sector

**Contributing Factors**

- a) On-time FAFSAs files by income and EFC level

**These action steps may be taken as appropriate:**

- ✓ Implement the Higher Education Student Funding Act;
- ✓ Support the growth of the Access Missouri Student Financial Assistance Program;
- ✓ Carry out a sustained statewide public information campaign on the value of higher education and the steps prospective students must take to prepare academically and financially; and
- ✓ Increase state funding and external funding sufficient to enable institutions to minimize tuition increases and maintain quality undergraduate and graduate programs and services.

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**NOTE:** Prior to adoption of this section, there should be exploration with DESE, the State Board of Education, P-12 organizations to obtain joint agreement.

**Objective 1C:** *Increase college attendance rate of high school students and non-traditional students.*

**Indicators**

- 1) College attendance rates of the 9<sup>th</sup> grade cohort of Missouri students, disaggregated by demographic group
- 2) College attendance rates of spring Missouri high school graduates
- 3) Percentage of the population and number of students aged 18 to 24 enrolled in postsecondary education, disaggregated by demographic group
- 4) Percentage of the population, and number of students over the age of 25 enrolled in postsecondary education, disaggregated by demographic group

5) Total enrollment in credit-bearing outreach courses and programs

**Contributing Factors**

a) Percent of Missouri 9<sup>th</sup> graders who take the ACT within four years

b) Number of degree programs newly offered in underserved locations

c) Percent of Missouri high school graduates enrolling in postsecondary education that require remedial coursework

d) Cohort analysis of persistence from fall semester to fall semester

**These action steps may be taken as appropriate:**

- ✓ Implement appropriate early intervention strategies at the school district level;
  - ✓ Implement the Curriculum Alignment Project;
  - ✓ Support the activities of the P-20 Coalition;
  - ✓ Provide incentives for attracting adult students, particularly in underserved regions;
  - ✓ Provide incentives for the delivery of degrees (especially graduate degrees) in underserved geographic areas
  - ✓ Provide institutional support for the additional costs associated with non-traditional course delivery methods; and
  - ✓ Review and, if necessary, strengthen CBHE oversight to assure the effectiveness of non-traditional programming.
-

# **Strategic Issues, Goals, and Action Steps**

## **Strategic Issue: *Develop a 21st Century Society and Global Economy***

**GOAL 2: Missouri's higher education system will contribute to a dynamic, information-based, globally competitive society and economy by collaborating with government and business.**

**Objective 2A:**     *Missouri's higher education system will demonstrate improvement in meeting the workforce needs of Missouri.*

### **Indicators**

- 1) Number of direct educational partnerships with Missouri businesses, including MBEs
- 2) Number of credentials awarded in key non-METS fields (fields to be determined)
- 3) Number of students passing certification and licensure examinations in high demand fields (fields to be determined)
- 4) Increases in personal income from degree attainment

### **Contributing Factors**

- a) Employer surveys regarding new teachers

**These action steps may be taken as appropriate:**

- ✓ Develop corporate links to access training and learning opportunities;
- ✓ Expand customized education and training opportunities where the business community and higher education institutions work together;
- ✓ Offer more access for place-bound or time-bound learners;
- ✓ Establish employer-based feedback mechanisms to evaluate the quality and preparedness of the graduates of postsecondary programs; and
- ✓ Support programs to recruit well-prepared, new and experienced teachers in high need areas.

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**Objective 2B:**     *Missouri's higher education system will increase the number of degrees and certificates awarded in METS-related and health practitioner fields. (Specific fields to be determined)*

**Indicators**

- 1) Number of degrees and certificates awarded in METS-related fields, including METS-related teacher education
- 2) Number of degrees and certificates awarded in health practitioner fields

**Contributing Factors**

- a) Number of declared majors in METS-related fields, including METS-related teacher education
- b) Number of credit hours delivered in METS-related fields
- c) Number of METS-related graduates who transferred from a community college
- d) Number of graduate students enrolled in master's level and above programs in METS-related fields
- e) Number of declared majors in health practitioner fields
- f) Number of health practitioner graduates who transferred from a community college
- g) Number of graduate students enrolled in master's level and above programs in health practitioner fields

**These action steps may be taken as appropriate:**

- ✓ Work with elementary and secondary schools to increase student interest in mathematics and science while improving overall educational preparation in mathematics and science;
- ✓ Invest in increased institutional capacity in health practitioner programs;
- ✓ Increase the number of postsecondary students completing courses in METS-related fields; and
- ✓ Offer funding incentives to institutions for increasing graduates in METS and health practitioner fields while demonstrating sustained quality programs.

**Objective 2C:**

*Missouri's higher education system will increase the number of graduate degrees awarded in critical fields and the number of graduate degrees newly offered in underserved areas. (Specific fields to be determined.)*

**Indicators**

- 1) Number of graduate and professional degrees awarded in critical fields, disaggregated by demographic group
- 2) Number of graduate and professional programs newly offered in underserved locations

**These action steps may be taken as appropriate:**

- ✓ Foster increased access to graduate and professional programs for historically underserved populations;
  - ✓ Provide incentives to expand access to graduate and professional programs in underserved areas using cooperative arrangements, resource sharing, and technology whenever possible; and
  - ✓ Expand access to high-quality continuing professional development opportunities in underserved areas using cooperative arrangements, resource sharing, and technology whenever possible.
- 

**Objective 2D:**      *Missouri's higher education system will increase the amount and scope of campus research and development activity.*

**Indicators**

- 1) Total expenditures on research and development at Missouri higher education institutions as a percentage of gross state product
- 2) Total number of external grants awarded to researchers connected to Missouri higher education
- 3) Total number of students, graduate and undergraduate, engaged in research activities beyond regular classroom requirements
- 4) Number of new business start-ups linked to research or development incubators associated with Missouri higher education institutions

**Contributing Factors**

- a) Number of invention disclosures and patents awarded in connection with a Missouri higher education institution
- b) Missouri's New Economy Index

**These action steps may be taken as appropriate:**

- ✓ Develop public relations efforts to inform the public about the benefits of research activities;
  - ✓ Establish competitive grant programs to expand research capacity in higher education institutions;
  - ✓ Establish competitive grant programs for collaborative research projects;
  - ✓ Improve cooperation between the Department of Economic Development and higher education institutions;
  - ✓ Establish and utilize a state-supported data inventory for identifying expertise and opportunities that result from research and development activities on campuses;
  - ✓ Provide extension programs and innovation centers with technical guidance to encourage the development of new companies, economy clusters, and partnerships;
  - ✓ Provide incentives to institutions that transfer new technologies to the marketplace.
- 

**Objective 2E:**        *Missouri institutions will increase learning experiences beyond the classroom and service activities beyond the campus.*

**Indicators**

- 1) Number of students participating in “high-impact” learning activities such as internships, study abroad, student-faculty research, and institutionally sponsored education outreach programs (e.g., ESL, TRIO, ABE)
- 2) Number of direct service relationships between higher education institutions and community/charitable organizations
- 3) Number of community service hours contributed by postsecondary students, faculty, and staff in association with their institution

**These action steps may be taken as appropriate:**

- ✓ Encourage and reward institutions to emphasize and assess student gains in critical thinking, creative problem solving, and effective communication in all academic programs;
- ✓ Provide incentives to institutions to provide their students increased access to “high-impact” learning opportunities;
- ✓ Use technology and alternative delivery mechanisms to increase opportunities for lifelong learning by all Missouri citizens;
- ✓ Foster increased cultural literacy, international understanding, and appreciation for diversity in all students through appropriate learning opportunities; and
- ✓ Establish learning communities within institutions that encourage the development of engaged citizens among students, faculty, staff, and the surrounding community.

# **Strategic Issues, Goals, and Action Steps**

**Strategic Issue:** *Enhance Resources through Increased Investment, Stewardship, and Responsibility*

**GOAL 3:** Missouri's higher education system will increase external financial support for higher education by demonstrating its value to key stakeholders and public policy-makers while providing a globally competitive workforce, creating valuable new knowledge and products, and enriching the quality of life of all Missourians.

NOTE: This section requires further discussion.

**Objective 3A:** *Missouri institutions will demonstrate continual improvement or sustained excellence in student learning outcomes.*

## **Indicators**

- 1) Results of annual assessments of student learning in general education
- 2) Results of annual major field assessments
- 3) Pass rates on licensure and certification examinations
- 4) Developmental student success rate in collegiate-level courses

## **Contributing Factors**

- a) Results of student engagement and satisfaction surveys

**These action steps may be taken as appropriate:**

- ✓ Continue to experiment with VSA and/or similar template for reporting of assessment of student learning gains;
- ✓ Evaluate need for and potential structure of policy in student assessment and placement, especially as a natural outgrowth of Curriculum Alignment Initiative
- ✓ Evaluate potential revisions to statewide data collection to better illustrate the scope and magnitude of postsecondary assessment
- ✓ Inventory instruments currently used to assess general education, major field, and professional certification / licensure

**Objective 3B:**      *Missouri's higher education system will increase the efficiency with which students move to graduation.*

**Indicator**

- 1) Average time to completion by program level, including the 42 hour block, for college-ready students

**Contributing Factors**

- a) Three-year and six-year graduation rates of college-ready students
- b) Number of transfer students who graduate from any institution with a baccalaureate degree

**These action steps may be taken as appropriate:**

- ✓ Use appropriate technology to improve the delivery of instruction, the sharing of knowledge, and the accomplishment of managerial tasks;
  - ✓ Incorporate considerations of institutional efficiency in the implementation of the Higher Education Student Funding Act;
  - ✓ Establish current agreed-upon missions (between each institution and the CBHE) and reinstitute five-year mission reviews;
  - ✓ Provide incentives to and recognize institutions for maintaining distinctive missions;
  - ✓ Provide consistent, comparable, and transparent information on the student experience to key higher education stakeholders, including prospective students and their families, public policy makers, and campus faculty and staff;
  - ✓ Provide consistent, illustrative, and transparent information on research activities and accomplishments to key higher education stakeholders, public policy makers, and the general public;
  - ✓ Pursue continuous improvement and demonstrate accountability for student learning and development; and
  - ✓ Facilitate inter-institutional partnerships that increase revenues and decrease expenses.
- 

**Objective 3C:**      *Missouri higher education system will annually attract additional resources.*

**Indicators**

- 1) Total educational revenue per FTE student
- 2) Total state appropriations for higher education operations
  - i. State appropriations for targeted investments in higher education
  - ii. State appropriations for performance funding in higher education

- 3) Total state appropriations for capital improvements
- 4) Total federal non-student aid dollars received by Missouri higher education institutions

**Contributing Factors**

- a) State higher education operating appropriations compared to surrounding states and the national average
- b) State higher education appropriations for capital projects compared to surrounding states and national averages

**These action steps may be taken as appropriate:**

- ✓ Develop new coherent, complementary and coordinated policy-driven funding strategies for increased public support that will help ensure national competitiveness;
- ✓ Measure progress in achieving strategic initiatives;
- ✓ Maximize non-state resource development through increased external grants, additional contracts for services, expanded development activities, and additional entrepreneurial activities; and
- ✓ Reward institutions for innovations in efficiency and demonstrated improvement in delivering quality educational programs and services.

## Appendix A - Data Sources

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### **Objective 1A**

#### **Percentage of the population aged 25 to 64 who hold a degree or certificate, for the state as a whole and disaggregated by demographic groups and regions**

- U.S. Census Bureau American Community Survey

#### **Number of degrees and certificates awarded, disaggregated by demographic groups**

- IPEDS - Data are available which detail the total number of the various degrees and certificates conferred by both Public and Independent Institutions disaggregated by gender and ethnicity in the state of Missouri for FY 2007.

#### **Number of postsecondary credit hours delivered**

- EMSAS, DHE-02 - Total credits enrolled by students *in college-level* coursework can be calculated for public institutions from EMSAS data. Comprehensive independent institutions report similar information on the DHE-02 fall enrollment supplement survey.

#### **Community college transfer student success rate**

- National Community College Benchmarking Project, Clearinghouse, EMSAS

### **Objective 1B**

#### **Percentage of state average family income required to pay for college after grant and scholarship aid, for the “average student” and disaggregated by demographic groups, educational sector, and income levels (for public institutions, this indicator will also include changes in state operating appropriations)**

- *Measuring Up - The National Report Card on Higher Education* (2006). Available tables detail the percentage of income needed to pay for college expenses. Available tables also disaggregate by institutional sector with inclusion of data on other states and the national average (located in the technical guide under ‘Affordability 2006’).

#### **Total financial aid dollars awarded to Missouri students for need-based financial aid and for other forms of financial assistance, disaggregated by educational sector**

- DHE-14 report.

#### **On-time FAFSAs files by income and EFC level**

- DHE FAMOUS system.

## **Objective 1C**

### **College attendance rates of the 9<sup>th</sup> grade cohort of Missouri students, disaggregated by demographic group**

- At this time there is insufficient and reliable data for this measure. Additional student-level data in development by DESE may enable this analysis in the future.

### **College attendance rates of spring Missouri high school graduates**

- Data published by NCHEMS (National Center for Higher Education Management Systems) details high school enrollment percentages for the state of Missouri and the nation for high school graduates enrolling in college immediately following graduation.

### **Percentage of the population and number of students aged 18 to 24 enrolled in postsecondary education, disaggregated by demographic group**

- *Measuring Up - The National Report Card on Higher Education* details the percentage of students aged 18 to 24 enrolled in postsecondary education, along with the national average and the top 6 states' average (located in Missouri State Report 2006 Participation).

### **Percentage of the population, and number of students over the age of 25 enrolled in postsecondary education, disaggregated by demographic group**

- *Measuring Up - The National Report Card on Higher Education* details data on working age adults that are enrolled part-time in postsecondary education. This information reflects enrollment of adults aged 25-49, rather than 25 and over, and does not include a demographic breakdown (located in Missouri State Report 2006 Participation).

### **Total enrollment in credit-bearing outreach courses and programs**

- Would require new data collection.

### **Percent of Missouri 9<sup>th</sup> graders who take the ACT within four years**

- ACT

### **Number of degree programs newly offered in underserved locations**

- MDHE program review/approval process.

### **Percent of Missouri high school graduates enrolling in postsecondary education that require remedial coursework**

- MDHE High School Graduates Report (public high schools and colleges only).

### **Cohort analysis of persistence from fall semester to fall semester**

- EMSAS

## **Objective 2A**

### **Number of direct educational partnerships with Missouri businesses, including MBEs**

- A new survey instrument would need to be developed.

### **Number of credentials awarded in key non-METS fields (fields to be determined)**

- IPEDS

### **Number of students passing certification and licensure examinations in high demand fields (fields to be determined)**

- Performance Indicator Survey - The MDHE currently collects aggregate information from public institutions detailing the number of students taking nationally-normed general education and major field assessments, as well as licensure and certification exams. The annual Performance Indicators Survey also reports student success according to basic benchmarks, e.g. number of students passing or scoring above the 50<sup>th</sup> percentile.

### **Increases in personal income from degree attainment**

- Data published by the U.S. Census Bureau from the 2006 American Community Survey details median earnings for 2005-2006 for the general populace age 25 and older by gender and disaggregated by level of education. Could also be incorporated into the MDHE collaboration with DOLIR.

### **Employer surveys regarding new teachers**

- A new survey instrument would be required.

## **Objective 2B**

### **Number of degrees and certificates awarded in METS-related fields, including METS-related teacher education**

- IPEDS - Data contains the total number of the various degrees and certificates conferred by Public 2yr, Public 4yr and Independent Institutions disaggregated by institution and METS-related fields in the state of Missouri.

### **Number of degrees and certificates awarded in health practitioner fields**

- IPEDS - Data contains the total number of the various degrees and certificates conferred by Public 2yr, Public 4yr and Independent Institutions disaggregated by institution in health-related fields in the state of Missouri.

### **Number of declared majors in METS-related fields, including METS-related teacher education**

- EMSAS

**Number of credit hours delivered in METS-related fields**

- EMSAS data would detail credit hours enrolled by students with declared METS *majors*, but there is no currently available data source detailing total credit hours delivered to students (majors or non-majors) in METS *courses*.

**Number of METS-related graduates who transferred from a community college**

- EMSAS (public institutions only)

**Number of graduate students enrolled in master's level and above programs in METS-related fields**

- EMSAS

**Number of declared majors in health practitioner fields**

- EMSAS

**Number of health practitioner graduates who transferred from a community college**

- EMSAS (public institutions only)

**Number of graduate students enrolled in master's level and above programs in health practitioner fields**

- EMSAS

**Objective 2C****Number of graduate and professional degrees awarded in critical fields, disaggregated by demographic group**

- IPEDS - Data details the number of master's, doctoral, and first professional degrees conferred by Missouri public and comprehensive independent institutions, by discipline, gender and ethnicity. Additional definition of "critical fields" would be required.

**Number of graduate and professional programs newly offered in underserved locations**

- MDHE program review/approval process.

**Objective 2D****Total expenditures on research and development at Missouri higher education institutions as a percentage of gross state product**

- MERIC, IPEDS - According to the Department of Economic Development's Missouri Economic Research and Information Center (MERIC), the state had an estimated gross domestic product of \$225,876,000,000 in 2006. Based on that figure, FY2007 research expenditures can be reported for public and comprehensive baccalaureate independent institutions, both in total, and as a percentage of gross domestic product.

**Total number of external grants awarded to researchers connected to Missouri higher education**

- IPEDS - Research grants do not break out in available data, but data is available on federal, state, and local operating grants and contracts with public institutions, and federal, state, and local contracts with comprehensive independent institutions. (Accounting standards differ for public and independent institutions, and these totals may include student Pell grants for independent institutions depending on institutional accounting). Though not specifically restricted as research revenues, this information may provide an additional proxy in measuring annual "development activity". Reference Table 7.2.

**Total number of students, graduate and undergraduate, engaged in research activities beyond regular classroom requirements**

- Would require new reporting.

**Number of new business start-ups linked to research or development incubators associated with Missouri higher education institutions**

- Would require new reporting.

**Number of invention disclosures and patents awarded in connection with a Missouri higher education institution**

- Would require new reporting.

**Missouri's New Economy Index**

- Ewing Marion Kauffman Foundation and the Information Technology and Innovation Foundation

**Objective 2E**

**Number of students participating in "high-impact" learning activities such as internships, study abroad, student-faculty research, and institutionally sponsored education outreach programs (e.g., ESL, TRIO, ABE)**

- Additional survey development would be required.

**Number of direct service relationships between higher education institutions and community/charitable organizations**

- Additional survey development would be required.

**Number of community service hours contributed by postsecondary students, faculty, and staff in association with their institution**

- Additional survey development would be required.

### **Objective 3A**

#### **Results of annual assessments of student learning in general education**

- Performance Indicator Survey - The MDHE currently collects aggregate information from public institutions detailing the number of students taking nationally-normed general education and major field assessments, as well as licensure and certification exams. The annual Performance Indicators Survey also reports student success according to basic benchmarks, e.g. number of students passing or scoring above the 50<sup>th</sup> percentile.

#### **Results of annual major field assessments**

- Performance Indicator Survey - The MDHE currently collects aggregate information from public institutions detailing the number of students taking nationally-normed general education and major field assessments, as well as licensure and certification exams. The annual Performance Indicators Survey also reports student success according to basic benchmarks, e.g. number of students passing or scoring above the 50<sup>th</sup> percentile.

#### **Pass rates on licensure and certification examinations**

- Performance Indicator Survey - The MDHE currently collects aggregate information from public institutions detailing the number of students taking nationally-normed general education and major field assessments, as well as licensure and certification exams. The annual Performance Indicators Survey also reports student success according to basic benchmarks, e.g. number of students passing or scoring above the 50<sup>th</sup> percentile.

#### **Developmental student success rate in collegiate-level courses**

- NCCBP

#### **Results of student engagement and satisfaction surveys**

- VSA, NCCBP, UCAN

### **Objective 3B**

#### **Average time to completion by program level, including the 42 hour block, for college-ready students**

- IPEDS - Data details four-, five-, and six-year graduation rates for first-time, full-time *baccalaureate* degree-seeking students at public and comprehensive independent institutions. Time-to-degree data for students pursuing other awards (e.g. associate's or graduate / first-professional degrees) would be available from EMSAS data for public institutions. No statewide data currently exists detailing completion of the 42-hour block, although "time-to-42-hours" could be calculated as a proxy for public institutions using EMSAS data.

#### **Three-year and six-year graduation rates of college-ready students**

- IPEDS

**Number of transfer students who graduate with a baccalaureate degree**

- EMSAS (public institutions only)

**Objective 3C**

**Total educational revenue per FTE student**

- Several options including IPEDS, SHEEO Finance, Grapevine

**Total state appropriations for higher education operations**

**State appropriations for targeted investments in higher education**

**State appropriations for performance funding in higher education**

- Several options including IPEDS, SHEEO Finance, Grapevine

**Total state appropriations for capital improvements**

- Several options including IPEDS, SHEEO Finance, Grapevine

**Total federal non-student aid dollars received by Missouri higher education institutions**

- Several options including IPEDS, SHEEO Finance, Grapevine

**State higher education operating appropriations compared to surrounding states and the national average**

- Several options including IPEDS, SHEEO Finance, Grapevine

**State higher education appropriations for capital projects compared to surrounding states and national averages**

- Several options including IPEDS, SHEEO Finance, Grapevine

## Appendix B – Illustration of Contextual Information for Setting Targets

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### Objective 1A Context Information

*Missouri is currently at 30.5%, compared to the nation at 37.4% in percent of the population 25 and over with a credential. Top performing state / districts include the District of Columbia (49.8%), Massachusetts (44.7%), and Colorado (41.9%).*

### Objective 1B Context Information

*Missouri is currently at or below the national average in terms of the percent of income needed to pay for college expenses minus financial aid in the community college, and public and private university sectors.*

<i>Community colleges:</i>	<i>MO (23%); national avg (24%); HI (17%)</i>
<i>Public Four-Year:</i>	<i>MO (31%); national avg (31%); UT (18%)</i>
<i>Independent Four-Year:</i>	<i>MO (54%); national avg (72%); UT (22%)</i>

### Objective 1C Context Information

*High school freshmen enrolling w/in 4 years, any state (2002)*

*Missouri 39%; national avg 38%; top state 62% (ND)*

*Percent ages 18-24 enrolling in college (2002-2004)*

*Missouri 33%; national avg 35%; top states 42% (CT / MI)*

*Percent ages 25-49 enrolled part-time in some postsecondary education (2003)*

*Missouri 4.0%; national avg 3.9%; top state 6.1% (NM)*



## AGENDA ITEM SUMMARY

### AGENDA ITEM

Higher Education Funding (HEF) Task Force  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

The Coordinating Board for Higher Education (CBHE) is committed to developing new funding policies that will be used to request appropriations for Missouri's public colleges and universities during the annual legislative budget process. To this end, the Board appointed the Higher Education Funding (HEF) Task Force. The intent of this agenda item is to present for CBHE review and action the Task Force's proposals for new comprehensive funding policies for Missouri higher education.

### Background

HEF is composed of institutional leadership from all sectors of Missouri public higher education, MDHE staff, and key staff from the Governor's Office and the legislature. This Task Force has met regularly over the past year to consider a wide range of issues surrounding the funding of Missouri public higher education and to construct new funding policies for FY 2010 and the future.

### Status

The attached Executive Summary and the Report of the HEF Task Force present the multi-year business plan approach to the basic funding needs and key strategic directions for Missouri higher education. Included in the report is the *Case Statement* that sets the context of higher education's role in providing the educational programs and services needed by Missouri citizens, in supporting the state's economic development, and in improving the general quality of life for Missouri citizens.

If the system is to fulfill the promise higher education holds for the state, there must be sufficient funding for the institutions. In order to communicate the funding needs of public higher education institutions, the Task Force has recommended a policy framework that is comprised of three main components:

- 1) Funding the core mission and core investments to maintain quality and opportunity
- 2) Strategic initiatives, which include investments to improve quality and expand service and opportunity
- 3) Performance funding, which includes investments that reward quality and results

Coordinating Board for Higher Education  
June 12, 2008

The Task Force recommends that the highest priority be given to funding the core mission, the second priority to strategic initiatives, and the third priority to performance funding. Each component is described in greater detail below.

### **Core Mission**

HEF members agreed that Core Mission Funding should address the following factors:

- supporting ongoing operations and related fixed costs
- addressing enrollment sensitivity and unevenness in funding, which has resulted in part from lack of funding for enrollment growth
- making institutions more competitive by closing funding gaps between Missouri's higher education institutions and national and peer-driven benchmarks, with emphasis on the results garnered from closing that gap

As a point of reference, each one percent increase in core appropriations equates to approximately \$9.6 million. Each institution would develop a concise summary of fixed cost increases and an explanation of how these funds would be used to support ongoing operations. The exact format for these summaries and explanations has not been established. In addition, the Task Force recommends that an institution's current appropriations should not be reduced in order to fund equity or fixed cost increases for other institutions.

While HEF agreed on the importance of the Core Mission as a first funding priority, a specific dollar amount was not stipulated. Overall there is support for using the same total percent core increase for all sectors. Furthermore HEF agreed that sector-specific approaches should be developed for ways to distribute funding among institutions.

On behalf of community colleges, the Missouri Community College Association (MCCA) has presented an allocation model that would, in years when core mission funding increases above 2.5%, direct the reallocation of a portion of total funding to address financial equity issues among community colleges. The MCCA policy is explained in detail in the report, and its rationale and assumptions are included as an attachment to the report.

On behalf of the public universities, the Council on Public Higher Education (COPHE) has developed a funding gap analysis and an allocation strategy for the portion of any base appropriation increase above the change in consumer price index. Beginning in FY 2011, this policy provides that such appropriations be distributed according to an Educational Program Model on the basis of weighted full-time equivalent students. The number of weighted full-time equivalent students is determined by applying annualized student credit hours by student level to a cost-ratio matrix reflective of the differing costs associated with different academic programs. The COPHE proposal also contains factors to recognize enrollment growth and inequities that exist for historical reasons. Additional explanation is included in the report, with guiding principles and operational details included as an attachment to the report.

Linn State Technical College, being a sector of one, did not have to address within-sector distribution. Linn State did develop a funding gap analysis based on a comparison to peer institutions across the country.

Examples of the basic operation of the COPHE and MCCA allocating models, assuming a 5 percent core mission increase for each sector, are provided as follows:

**COPHE** - if a 5 percent increase was allocated to the *Core Mission* in a year when the CPI increased by 3 percent, then 3 percent would be allocated to each institution, and the remaining 2% would be distributed according to the Educational Program Model. If the CPI increased by 3 percent and core increase was 3 percent or less, then each institution would receive an equal 3 percent increase, and the Educational Program Model would not be used. All COPHE presidents have endorsed this model.

**MCCA** – if a 5 percent increase was allocated to the *Core Mission*, that 5 percent would initially be distributed proportionally based on each institution’s current share of state funds. Then 0.5 percent of each institution’s total core appropriation would be placed in an equity adjustment pool. This pool is then redistributed to those institutions qualifying for an equity adjustment based on a formula that incorporates tuition rates, tax rates, assessed valuation per student, and state appropriations per student. This model was adopted by the MCCA Presidents and Chancellors Council.

In these examples, the actual increases for any particular institution would most likely not be 5 percent. Some would be below 5 percent while others would be above 5 percent though the total increase for each sector would remain 5 percent.

**Linn State Technical College** – Linn State would receive a *Core Mission* increase equivalent to that received by the other two sectors.

### **Strategic Initiatives**

The Task Force recommends that funding requests include one or more *Strategic Initiatives* to address both what the individual institutions are currently doing (enhancing current services and programs) as well as initiatives to provide additional programs or services to the state (such as Preparing to Care).

The HEF Task Force has reaffirmed its support for the **Preparing to Care** initiative and has indicated that continued support for expanding institutional capacity in health practitioner programs is critical and should be included in future funding requests. The other five potential *Strategic Initiatives* proposed by HEF are:

- **Access to Success**, designed to improve the participation and academic success of “at risk students”
- **Teachers for the Future**, designed to improve K-12 student learning outcomes
- **Research and Service**, designed to support and incent basic and applied research activities and community service activities

- **METS**, designed to develop the critical mass of human talent needed to support strategic industries key to Missouri's future regional and global competitiveness
- **Protecting Investments**, designed to retain the value of the physical assets in public higher education and improve teaching and learning environments

Detailed overviews on these five initiatives are included as attachments to the report. In order to review the crucial data elements that would be used in supporting and allocating these investments, there will have to be further work on some initiatives prior to inclusion in a formal CBHE funding request.

The Task Force's vision for strategic initiatives is to use a "menu" approach that would present several options for *Strategic Initiatives* to policy-makers rather than having them prioritized prior to movement up the budgetary ladder. In addition, the Task Force recognizes that initiative options for future years should be flexible to take into account the changing environment, state needs, and any previous commitments regarding particular strategic initiatives.

The Task Force envisions that an amount equal to 1 – 1.5 percent of overall base funding (approx. \$10 - \$15 million) would be allocated to *Strategic Initiatives* each year.

### **Performance Incentive Funding**

The Task Force also recommends that appropriation requests include *Performance Incentive Funding*. The Task Force believes that the purpose of *Performance Incentive Funding* should be to reward institutions based on improvement against prior performance or for maintenance of a high degree of performance relative to benchmarks.

The Task Force has also discussed potential measures for *Performance Incentive Funding*. These measures include: major field assessment or licensure/certification examination, total degrees and certificates produced, educational outcomes, including assessment of student learning, and student satisfaction.

The Task Force does not have concrete recommendations for *Performance Incentive Funding* measures because, logically, the selection of actual measures would follow once the actual goals and indicators in the Coordinated Plan are decided upon. In addition, in order to begin implementing performance incentive funding, there will have to be further work in establishing consensus on specific measures, setting baselines, and establishing benchmarks prior to inclusion in a formal CBHE funding request.

The Task Force envisions that an amount equal to 1 percent (approximately \$10 million) of overall base funding would be allocated to *Performance Incentive Funding* each year, and that institutions would have to "earn" that money on an annual basis.

### **Next Steps**

If these policies are adopted by the Coordinating Board, there are some open questions the Board should consider when crafting its budget recommendations for FY 2010 and subsequent years.

Engaged dialog between MDHE staff and presidents and chancellors on the following questions will be beneficial in identifying institutional perspectives and level of consensus on the following questions.

- What should be the size of the overall request?
- What should the relationship be between the three funding components within that overall request?
- How should the Coordinating Board recommendations for FY 2010 incorporate the third year of the three year state commitment to increase base funding by approximately 4.5%, or about \$41 million?
- Is it possible to initiate Performance Incentive Funding for FY 2010? If so, what form will that take? If not, what needs to be done to begin in FY 2011?

## **STATUTORY REFERENCE**

Chapter 173, RSMo, Chapter 33.210 – 33.290, Chapter 163.191, RSMo

## **RECOMMENDED ACTION**

**It is recommended that the Coordinating Board for Higher Education accept the report of its Higher Education Funding Task Force and adopt the comprehensive funding policies for Missouri public higher education as outlined in the report.**

**It is further recommended that the Coordinating Board for Higher Education direct the Commissioner to work with presidents and chancellors in identifying and collecting relevant information for developing a FY 2010 budget request for CBHE review and action at its September 2008 meeting.**

## **ATTACHMENTS**

Attachment A: Executive Summary  
Attachment B: Report of the HEF Task Force

# Higher Education Funding Task Force Report

## Executive Summary

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Whether or not Missouri public higher education is positioned to provide the needed educational services for a thriving economy is in doubt. The system must increase degree attainment and workforce development, as well as research and technology transfer activities. These actions can result in greater economic prosperity and a higher quality of life for all Missourians. Achieving these results will require greater institutional productivity and accountability, and additional state, federal and private investments. In the long-term, Missouri will reap tremendous benefits.

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### **Invest in Missouri public higher education today, Assure the success of Missouri tomorrow**

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#### **Missouri public higher education institutions ...**

##### **\* Educate Missourians to compete and succeed in the 21<sup>st</sup> century**

*Missouri's public colleges and universities promote access, affordability, and accountability. They educate citizens of all ages for today's knowledge-based economy by equipping them to think critically, solve problems creatively, and communicate effectively. Such preparation is especially important in critical areas such as mathematics, engineering, technology, and science.*

##### **\* Fuel the state's economic engine for the benefit of all Missourians**

*Public higher education meets statewide needs and generates economic development. Our public colleges and universities make vital contributions to Missouri's economic growth through investments in education, research, job training, and service. Public higher education also serves as a catalyst to attract and retain high paying jobs created by business and industry.*

##### **\* Make Missouri an even better place to live now and in the future**

*Public higher education promotes personal growth and citizenship. Missouri's graduates strengthen our democracy. They are more productively employed, economically independent, and likely to volunteer, vote, and stay healthy. Further, Missouri's public colleges and universities add to the quality of life of our communities through the arts, entertainment, and other cultural initiatives.*

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## Current Funding Realities

- Missouri's ranks 47<sup>th</sup> in per capita appropriation for higher education - \$150.33 compared to the national average of \$241.56. To reach the national average on this measure, Missouri's appropriations for higher education would have to increase by 60%, over \$527 million.
- Missouri's ranks 46<sup>th</sup> in appropriations per \$1,000 of personal income - \$4.60 compared to the national average of \$6.71. To reach the national average on this measure, Missouri's appropriations for higher education would have to increase by 45%, over \$395 million.
- Missouri ranks 49<sup>th</sup> in change in state appropriations from fiscal year 2002 to fiscal year 2007 at -9.9%. The national average was 15.1% for this time period. *(Note: Colorado's appropriations for higher education declined by -10.1%.)*

**Missouri's current level of investment in public higher education jeopardizes the system's ability to produce the citizenry and workforce required to support the continued economic growth of the state throughout the 21<sup>st</sup> century.**

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## Looking Forward

The Higher Education Funding Task Force recommends that Missouri use new policy-driven higher education funding strategies. The policies follow a business model approach designed to meet the needs of students, citizens, communities, and the Missouri economy. The funding strategies are externally benchmarked, transparent, and focused on results. They should be clearly communicated to the public.

The funding strategies are designed to connect with the state's coordinated plan for higher education, focus on institutional mission, provide incentives for high performance, and address issues such as enrollment sensitivity, adequacy, and rising fixed costs.

## Overall Framework



The Task Force recommends a funding framework consisting of three broad components:

1) *Maintaining Quality and Opportunity: Core Mission Funding.* This component recognizes that each institution has ongoing costs that must be addressed, including resources to address rising fixed costs, to remain competitive with other states in terms of facilities and personnel, to address enrollment growth, and to support program delivery.

2) *Improving Quality and Opportunity & Expanding Service and Opportunity: Strategic Initiatives.* This component focuses on specific state and community needs and how institutions can respond to these needs consistent with each institution’s mission. Strategic investments also include initiatives designed to improve quality of educational, outreach, and research programs and increase educational opportunities for Missourians. Initiatives identified in *Imperatives for Change*, the CBHE’s coordinated plan are included in this category.

3) *Rewarding Quality and Results: Performance Funding.* This component includes investments and incentives that reward improvement or sustained excellence in key educational outcomes.

## Summary

The Task Force has reached consensus on the importance of these policies and believes that adopting the new funding strategies is essential. While the policies and actions to support them may not result in a dramatic change on a one-year basis, in the long-term, these funding strategies can enable higher degree attainment, increased workforce development, and more productive research and technology transfer activities. If, over time, significant changes occur as a result of the adoption of these policies, the state and its citizens will reap tremendous benefits through greater economic prosperity and a higher quality of life.

# Higher Education Funding Task Force Report

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Missouri's higher education system is an extraordinary asset. Missouri's colleges and universities educate future leaders who will provide the talent, energy, and innovation to keep Missouri competitive in a knowledge-based economy. Missouri needs college graduates in the numbers and disciplines required to meet the workforce demands of a 21st century economy and to ensure a higher quality of life for its citizens. Reports from several state and national organizations underscore the pivotal role of higher education in educating more citizens, expanding workforce development, and fostering continual innovation through research and technology transfer.

Whether or not Missouri public higher education is positioned to provide the needed educational services for a thriving economy is in doubt. The system must increase degree attainment and workforce development, as well as research and technology transfer activities. These actions can result in greater economic prosperity and a higher quality of life for all Missourians. Achieving these results will require greater institutional productivity and accountability, and additional state, federal, and private investments. In the long-term, Missouri will reap tremendous benefits.

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## **Invest in Missouri public higher education today, Assure the success of Missouri tomorrow**

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### **Missouri public higher education institutions ...**

#### **\* Educate Missourians to compete and succeed in the 21<sup>st</sup> century**

*Missouri's public colleges and universities promote access, affordability, and accountability. They educate citizens of all ages for today's knowledge-based economy by equipping them to think critically, solve problems creatively, and communicate effectively. Such preparation is especially important in critical areas such as mathematics, engineering, technology, and science.*

#### **\* Fuel the state's economic engine for the benefit of all Missourians**

*Public higher education meets statewide needs and generates economic development. Our public colleges and universities make vital contributions to Missouri's economic growth through investments in education, research, job training, and service. Public higher education also serves as a catalyst to attract and retain higher paying jobs created by business and industry.*

#### **\* Make Missouri an even better place to live now and in the future**

*Public higher education promotes personal growth and citizenship. Missouri's graduates strengthen our democracy. They are more productively employed, economically independent, and likely to volunteer, vote, and stay healthy. Further, Missouri's public colleges and universities add to the quality of life of our communities through the arts, entertainment, and other cultural initiatives.*

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## Current Funding Realities

Total state funding for Missouri higher education institutions is currently less than it was in fiscal year 2001. While the legislature and the governor have made a commitment to restore overall state funding to the fiscal year 2001 levels by fiscal year 2010 (not adjusted for inflation), Missouri still lags far behind other states and continues to lose ground:

- Missouri's ranks 47<sup>th</sup> in per capita appropriation for higher education - \$150.33 compared to the national average of \$241.56. To reach the national average on this measure, Missouri's appropriations for higher education would have to increase by 60%, over \$527 million.<sup>1</sup>
- Missouri's ranks 46<sup>th</sup> in appropriations per \$1,000 of personal income - \$4.60 compared to the national average of \$6.71. To reach the national average on this measure, Missouri's appropriations for higher education would have to increase by 45%, over \$395 million.<sup>1</sup>
- Missouri ranks 49<sup>th</sup> in change in state appropriations from fiscal year 2002 to fiscal year 2007 at -9.9%. The national average was 15.1% for this time period. (*Note: Colorado's appropriations for higher education declined by -10.1%.*)<sup>1</sup>
- While the Higher Education Funding Task Force did not do its own calculations regarding a funding gap, choosing instead to focus on the business plan for justifying additional investment, all three sectors of Missouri public higher education agree that there is a significant gap for each sector and, therefore, for the state as a whole.

**Missouri's current level of investment in public higher education jeopardizes the system's ability to produce the citizenry and workforce required to support the continued economic growth of the state throughout the 21<sup>st</sup> century.**

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<sup>1</sup> Source: *Grapevine Compilation of State Higher Education Tax Appropriations Data for Fiscal Year 2007*, Illinois State University and *State Higher Education Finance*, State Higher Education Executive Officers, 2007.

## Looking Forward

The Higher Education Funding Task Force recommends that Missouri use new policy-driven higher education funding strategies. The policies follow a business model approach designed to meet the needs of students, citizens, communities, and the Missouri economy. The funding strategies are externally benchmarked, transparent, and focused on results – and should be clearly communicated to the public.

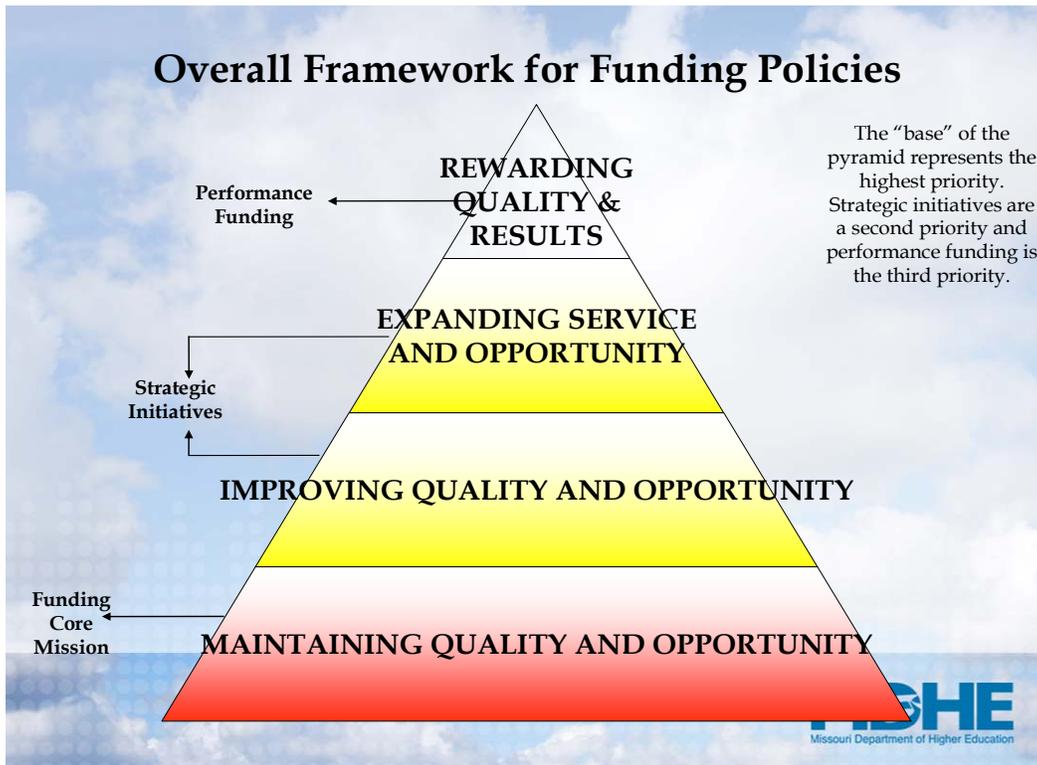
The funding strategies are designed to connect with the state’s coordinated plan for higher education, focus on institutional mission, provide incentives for high performance, and address issues such as enrollment sensitivity, adequacy, and rising fixed costs.

Currently, Missouri’s public colleges and universities are funded using an incremental process. Incremental funding can provide continuity from year to year; however, as state support for Missouri’s higher education institutions has declined in some recent years and not increased in others, funding has not been stable. In addition, the incremental approach has not been sensitive to enrollment growth, does not provide incentives for high performance or focusing on meeting state and community needs, and does not provide the capacity to adjust to new opportunities and challenges.

During the past year, the Higher Education Funding Task Force has developed funding policies to recommend to the Coordinating Board. The members of the Task Force, its technical support group, and its communication support group are listed in Attachment 1.

This report presents the Task Force’s proposals for new comprehensive funding policies for Missouri public higher education. The guiding principles that were used in developing the funding policies are contained in Attachment 2.

## Overall Framework



The Task Force recommends a funding framework consisting of three broad components:

1) *Maintaining Quality and Opportunity: Core Mission Funding.* This component recognizes that each institution has ongoing costs that must be addressed, including resources to address rising fixed costs, to remain competitive with other states in terms of facilities and personnel, to address enrollment growth, and to support program delivery.

2) *Improving Quality and Opportunity & Expanding Service and Opportunity: Strategic Initiatives.* This component focuses on specific state and community needs and how institutions can respond to these needs consistent with each institution's mission. Strategic investments also include initiatives designed to improve quality of educational, outreach, and research programs and increase educational opportunities for Missourians. Initiatives identified in *Imperatives for Change*, the CBHE's coordinated plan are included in this category.

3) *Rewarding Quality and Results: Performance Funding.* This component includes investments and incentives that reward improvement or sustained excellence in key educational outcomes.

The “base” of the triangle, *Core Mission Funding*, is the highest priority. *Strategic Initiatives* are a second priority and *Performance Funding* is a third priority. The Task Force recommends that funds are allocated to support the three components of the funding framework each year, and that new funding in each category represents ongoing core increases. In determining how much should be allocated to each component, it is prudent to consider a multi-year approach. Because the resources necessary to support investments for core funding, strategic initiatives, and performance funding are substantial, a long-term funding commitment is essential.

### ***Core Mission Funding***

Investments in the Core Mission include:

- An inflationary increase to support ongoing operations and related fixed cost increases
- Funding to address historical inequity in funding
- Funding to recognize past enrollment growth and enrollment sensitivity in the future
- Funding for “adequacy” to close the gap between Missouri’s higher education institutions and external benchmarks with emphasis on the results garnered from closing that gap

Operationally, *Core Mission Funding* consists of an across-the-board investment, e. g., an increase at the rate of inflation<sup>2</sup>. Each institution would develop a concise summary of their fixed cost increases and an explanation of how new funds will be used to support ongoing operations<sup>3</sup>. Also included within *Core Mission Funding* are additional investments to address enrollment sensitivity, historical inequity in funding, and adequacy to make institutions more competitive with those in other states.

The Task Force intends that the percent increases under *Core Mission Funding* would be equivalent for all three sectors of Missouri public higher education – universities, community colleges, and Linn State Technical College.

### **Core Mission Components**

The community college and university sectors have each developed funding models for allocating resources among institutions to address the historical inequity, enrollment growth, and adequacy factors. Linn State Technical College, being a sector of one, does not require a distribution policies.

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<sup>2</sup> The Task Force recommends the use of the consumer price index, calculated in the same manner as specified in SB 389 regarding tuition increases, be used as the relevant measure of inflation.

<sup>3</sup> The format for summaries and explanations regarding fixed cost increases has not been determined.

**Universities:** The university sector has adopted general principles of agreement, which are included in Attachment 3. This allocation strategy provides that appropriations above an inflationary increase will be distributed each year according to an *Educational Program Model* developed by the Council on Public Higher Education (COPHE)<sup>4</sup> Work Group. This model estimates a funding gap between the national average state support per FTE student for public four-year institutions and state support per FTE student in Missouri. The funding gap is distributed on the basis of weighted full-time equivalent students. The weighting factors are based on academic program and student level, recognizing the varying costs associated with different programs and levels of instruction. Enrollment growth is also factored into the model. A funding gap is also calculated for medical and cooperative extension and research.

In addition, the COPHE core funding allocation strategy provides a special allocation for historical inequities attributable to the mission change from two-year to four-year status at Missouri Southern State University and Missouri Western State University. A special allocation is also provided for institutions that experienced enrollment increases in excess of 1,000 FTE students between fall 2000 and fall 2006 (Missouri State University, Southeast Missouri State University, and the University of Missouri). All university presidents have signed an agreement in support of the allocation strategy.

**Community Colleges:** The Missouri Community College Association (MCCA) has reached consensus on a funding allocation model. The community college sector used the following goals to guide the development of the new model:

1. The overarching philosophy is that this new distribution model be simple and easy to understand.
2. The model should be an “all funds” approach. (*Note: this approach takes into account local wealth, local tax rates, tuition rates, and state funding.*)
3. The funding model should be enrollment-sensitive but not driven by enrollment.
4. The tax base should be considered and local effort measured. On balance the relative wealth of the service region should be factored. This will be measured against tuition rate and fees.

In years in which the community college core appropriation increase exceeds 2.5 percent, an adjustment of up to 0.5 percent of the total state aid, excluding any *Strategic Initiative* or *Performance* funding provided in FY 2009 or later, will be distributed on a proportionate basis to colleges eligible for an equity adjustment. Each community college is given a point ranking based on access to tuition, local taxes, and state support. One-half of the equity funds are distributed based on an institution’s share of points for these factors and one-half is distributed to colleges where the total state aid allocation per FTE student falls below 85 percent of the mean total aid per FTE student. The rationale and assumptions for the community college model are included in Attachment 4.

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<sup>4</sup> COPHE is the organization of presidents and chancellors of Missouri’s public universities.

**Linn State Technical College:** While Linn State is a sector of one, and thus needs no distribution model, the institution has developed a funding target to address competitiveness with its peers. The methodology utilizes information gleaned from mission, instructional program weighting, and peer group benchmarking, while also incorporating enrollment sensitivity.

## *Strategic Initiative Funding*

Strategic initiatives enhance institutions' current services and programs and provide additional programs or services to the state, such as **Preparing to Care**.

The Task Force reaffirms its support for the **Preparing to Care** initiative. The Task Force has indicated that continued support for this initiative is critical, and that it should be included in future funding requests. The model for the **Preparing to Care** initiative was presented to the Coordinating Board at its October 2007 meeting. Five additional potential strategic initiatives are:

- **Access to Success**, designed to improve the participation and academic success of "at risk" students
- **Teachers for the Future**, designed to improve K-12 student learning outcomes
- **Research and Service**, designed to support and provide incentives for basic and applied research activities and community service activities
- **METS**, designed to develop the critical mass of human talent needed to support strategic industries key to Missouri's future regional, national, and global competitiveness
- **Protecting Investments**, designed to retain the value of the physical assets in public higher education and improve teaching and learning environments

Additional details on the potential initiatives are included in Attachment 5. The Task Force recommends using a "menu" approach that presents several alternative initiatives to policy-makers rather than submitting a prioritized list for consideration in the appropriations request process. In addition, the Task Force recognizes that initiative options for future years should be flexible to take into account the changing environment and state and community needs.

The Task Force envisions that 1 - 1.5 percent of annual overall funding (approximately \$10 - \$15 million) would be allocated to *Strategic Initiatives* each year, and that Strategic Initiative funding becomes part of an institution's on-going funding.

## *Performance Incentive Funding*

The Task Force has also developed recommendations for *Performance Incentive Funding* and believes that the purpose of *Performance Incentive Funding* should be to reward institutions based on how an institution is improving as measured against its own past performance and for maintaining a high degree of performance relative to external benchmarks. Funding to reward performance should be allocated with additional funds beyond the base budget.

The indicators used for *Performance Incentive Funding* must arise out of *Imperatives for Change*, the CBHE's coordinated plan for Missouri higher education. When the plan is adopted and goals and indicators of progress are agreed upon, priority items can be selected for inclusion as performance funding indicators.

The Task Force has had preliminary discussions regarding indicators for *Performance Incentive Funding*. The Task Force members have agreed that any performance funding structure should be complimentary of the performance measure structure established in Senate Bill 389 (2007). This structure requires:

**Three common statewide indicators\***. Discussion has centered on the following potential measures:

- 1) general education attainment;
- 2) total statewide degree and certificate production; and
- 3) major field assessment or licensure/certification exam pass rates.

\* Of the three required statewide indicators, the law allows for **one sector-specific measurement**. With regard to this possibility, the Task Force has discussed, as an example, student engagement as measured by the National Survey of Student Engagement and Community College Survey of Student Engagement.

**Two institution-specific measurements**. Institution-specific measurements would be directly tied to both the institution's strategic plan and *Imperatives for Change*.

It is recommended that 1 - 2% (approximately \$10 - \$20 million) of overall funding be allocated to *Performance Incentive Funding* each year.

Attachment 6 is an illustrative example reflecting the Task Force's preliminary discussions regarding the operationalization of *Performance Incentive Funding*.

## Summary

The Higher Education Task Force recommends a new funding methodology for Missouri's colleges and universities. The methodology uses a business plan approach, is comprehensive, and includes:

- A rational allocation of state funds to support the core mission for each college and university, which addresses enrollment sensitivity and supports programmatic changes;
- Strategies that support specific state and community needs and address the importance of improving quality of educational programs and opportunities for Missourians; and
- Incentives that reward improvements in institutional performance and sustained excellence in key education outcomes.

Missouri's historical under funding of higher education complicates the transition to new funding policies and methodologies. All funding policies and methodologies are imperfect and they cannot resolve all the resource allocation challenges of a higher education system. Nor can they be expected to fully accommodate the wide range of objective and subjective differences among institutions and the special circumstances of each institution.

The Task Force has reached consensus on the importance of these policies and believes that adopting the new funding strategies is essential. While the policies and actions to support them may not result in a dramatic change on a one-year basis, in the long-term, these funding strategies can enable higher degree attainment, increased workforce development, and more productive research and technology transfer activities. If, over time, significant changes occur as a result of the adoption of these policies, the state and its citizens will reap tremendous benefits through greater economic prosperity and a higher quality of life.

**Members of the Higher Education Funding Task Force**

- Paul Wagner – Chair, MDHE Staff
- Don Claycomb – Linn State
- Don Doucette – Community Colleges
- Al Tunis – Community Colleges
- Donna Imhoff – MDHE Staff
- Evelyn Jorgenson – Community Colleges
- Stephen Lehmkuhle – Public Universities
- Brady Deaton - Public Universities
- Mary Beth Luna Wolf – Governor’s Office
- Carolyn Mahoney – Public Universities
- Alan Marble – Community Colleges
- Michael Nietzel – Public Universities
- Aaron Podolefsky – Public Universities
- James Scanlon – Public Universities
- Carla Chance – Community Colleges
- Hal Higdon – Community Colleges
- Mike Price – House Staff

**Members of the Higher Education Funding Task Force  
Technical Support Group**

- Adam Koenigsfeld – MDHE Staff
- David Rector – Public Universities
- Ken Dobbins – Public Universities
- Robbie Meyers – Community Colleges
- Reinhard Weglarz – Community Colleges
- Al Tunis - Community Colleges
- Rick Mihalevich – Linn State
- Larry Gates - Public Universities

**Members of the Higher Education Funding Task Force  
Communication Support Group**

- Zora AuBuchon - MDHE Staff
- David Russell - Public Universities
- Ann Brand - Community Colleges
- Clif Davis - Community Colleges
- Beth Wheeler - Public Universities
- Wendy Baker - MDHE Staff

## Guiding Principles

The Task Force operated with the following principles, used to guide the development of a new funding methodology. In order to successfully serve the Missouri public higher education community, the new funding policies should:

- ***Be responsive to state and community needs.*** The funding policies should be responsive Missouri's need for a highly-educated workforce in a thriving 21<sup>st</sup> century economy.
- ***Be explicit in requests for funding.*** Requests for additional funds should be explicit so that political leaders know what they are "buying."
- ***Connect to the Coordinated Plan.*** Missouri is developing a *coordinated plan* that will be adopted by the Coordinating Board in 2008, and funding policies should support the plan's statewide goals.
- ***Be clearly communicated to the public.*** As a part of the funding strategy, all institutions and the Coordinating Board should work together and "speak with one voice."
- ***Address clear, distinctive missions.*** Missouri's public colleges and universities have unique roles in providing a variety of educational programs, and the funding policies should address these distinct roles.
- ***Provide adequate and equitable funding and be enrollment sensitive.*** The policies should address the adequacy of support for institutions to assure that support is similar for programs and institutions that are similar in size, scope, and mission. Since each institution has a different mission, equitable funding does not mean equal support for each institution. Enrollment increases should be addressed in the funding policies. Adequacy should be funded with additional "new" resources, rather than reallocating resources among the various institutions.
- ***Include performance-based incentives.*** The funding policies should include performance incentives that reward institutions for attaining certain goals as well as improvement.
- ***Be Simple and Rational.*** The funding policies should be as simple as possible and employ a rational approach.
- ***Promote efficiency and accountability in institutional operations.*** The funding methodology should provide campuses with autonomy in the allocation of

funds, and campuses should demonstrate effective and efficient use of resources and be accountable for the use of public funds.

- ***Recognize a multi-year approach.*** All analyses show that Missouri's higher education institutions need significant additional resources to meet the educational needs of Missouri's citizens. At the same time, financial realities must be recognized in budget requests. The proposals should be long-term and represent consistent policy and long-term financial needs.

## Principles of Agreement

### COPHE Institutions

#### General

- Maintaining quality and educational opportunity at each four-year university requires continuity and predictability in the level of funding from one fiscal year to the next.
- State funds appropriated for improving quality and educational opportunity will be used to support investment strategies that advance teaching and research and directly benefit students including but not limit to:
  - recruit and retain highly qualified faculty and competent administrative and support staff, who are compensated at competitive market rates;
  - provide state-of-the-art technology infrastructure and equipment to support interactive learning environments, innovative research, and integrated information systems;
  - provide sustainable physical facilities to support various learning environments and research capacities at each institution;
  - provide supporting services, systems, and structures that improve educational opportunity and success of students; and
  - provide enhanced academic/administrative processes that promote improved effectiveness and efficiencies.
- Funding of the state's four-year institutions should address issues of adequacy and equity in the distribution of state appropriations (we acknowledge that adjustments based on historic strong enrollment growth and under-funded transitions from community colleges to four-year universities should be part of comprehensive funding model). In addition, the new funding system must recognize differences in institutional missions and economies of scale.
- A balanced funding methodology for public higher education must include opportunities for strategic state investments to address state needs and opportunities as well as funding mechanisms that recognize and reward institutional performance.

- In order for the state of Missouri to provide competitive educational opportunities and services for its citizens, state appropriations allocated to each four-year university must be at a level that enables institutions to achieve and sustain high-quality programming that is nationally competitive.
- State appropriations must also improve and educational opportunities. Appropriations not allocated through performance funding or strategic initiatives should be allocated using a methodology for distributing resources that recognizes:
  - the four-year sectors' current level of funding relative to national benchmark data. Such data should be used in determining total state appropriations required to support the public four-year universities at a competitive level such that quality and educational opportunity are improved;
  - the cost differences that exist in the delivery of academic discipline-based courses and levels of students served (i.e., lower and upper division undergraduates, master's, doctoral, and professional students); and
  - the need to adjust appropriations levels based on periodic mission-review and enrollment growth.

**Principles of Agreement  
Operational Features of the COPHE Funding Model**

**Technical: Beginning in FY 2011**

1. Each year the base appropriation of each institution shall be increased by the rate of inflation as measured by the Consumer Price Index (CPI) for the prior fiscal year. This investment in each institution is the first priority that must be addressed annually.
2. Appropriations above inflation shall be distributed each year according to the Educational Program Model developed by the COPHE Work Group before funding earmarked for strategic initiatives or performance funding. This model estimates the funding gap between the national average state support per FTE student for public four-year public universities and state support per FTE student in Missouri. The funding gap shall be distributed on the basis of weighted full-time equivalent (WFTE) students. Application of this model shall follow points 3 through 14 itemized below and is illustrated on the attached simulation.

- WFTE students shall be determined by applying annualized student credit hours by student level to the following cost-ratio matrix to produce annualized weighted student credit hours.

**Cost -Ratio Matrix for Deriving Weighted Full-time Equivalent Students**

Discipline Cluster	Lower Division (1.00)	Upper Division (1.50)	Master's (2.10)	1 <sup>st</sup> Prof. (2.50)	Doctoral (3.00)
Cluster I (1.00)	1.00	1.50	2.10	NA	3.00
Cluster II (1.51)	1.51	2.26	3.17	NA	4.53
Cluster III (1.84)	1.84	2.76	3.86	NA	5.52
Cluster IV (2.19)	2.19	3.28	4.60	5.48	6.57
Cluster V (3.34)	3.34	5.01	7.01	8.35	10.02
Cluster VI None	NA	NA	NA	NA	NA

- Annualized weighted student credit hours shall be converted to annualized WFTE using the following credit hour load conversion factors:

<u>Student Level</u>	<u>Normalized Load</u>
Lower Division	30
Upper Division	30
Master's	24
1 <sup>st</sup> Professional	30
Doctoral	24

- Annualized WFTE will be calculated for the three most recently completed fiscal years, commencing with the summer session and concluding with the spring semester of each year. The sum of WFTE for the three most recent fiscal years shall be averaged to establish the WFTE enrollment base from which to calculate state appropriations attributed to each institution. A three-year rolling average WFTE shall be used in each subsequent year to establish a new WFTE enrollment base from which to calculate the next year's appropriations attributed to each institution.
- The identified funding gap shall be allocated over a four-year period commencing with fiscal year 2011 and ending with the fiscal year 2014 appropriations.
- The three-year average WFTE shall be multiplied by a standardized funding rate associated with the funding gap to determine the dollar amount of state appropriations assigned to each institution. Each subsequent fiscal year, the funding rate associated with the gap funds shall be increased by the CPI.

8. If in any given year state appropriations are insufficient to fully fund the recommended increase (i.e., base appropriations, gap funding, and other adjustments), then available funds will first be allocated based on adjusting the prior year appropriations by CPI as set forth in item 1. Any remaining new funds shall be allocated on a pro-rata basis between the marginal increase required to close the existing funding gap (composed of education program activities from the cost ratio matrix, medical programs, and cooperative extension/research) and adjustments for mission and enrollment growth as set forth in items 7, 9, 10, 11 and 13. For example, using data from the attached simulation, in FY 2011 any appropriations above CPI would be distributed as follows: gap funding (three components) 83.6%, mission adjustments 4%, and enrollment adjustments 12.4%. Funds assigned to reduce the existing funding gap shall be allocated based on WFTE. Funds assigned for adjustments based on mission and enrollment growth shall be distributed on a proportional basis among the affected institutions.

Appropriations available to close the funding gap should be distributed to education program activities (from the cost ratio matrix), medical programs, and cooperative extension/research proportionate to the total funding gap identified by the COPHE Work Group. The total funding gap, in FY2006, was calculated at \$212,281,825. The funding gap for common program activities was \$157,918,039 (74.39%), medical programs \$46,671,820 (21.99%), and cooperative extension/research \$7,691,461 (3.62%).

For example: if the legislature appropriates a total of \$20 million in FY2011 over and above an inflationary increase to help close the existing overall funding gap. Distribution of the \$20 million in funding gap appropriations would be as follows:

Education Program Activities (from the Cost Ratio Matrix)	\$14,878,000	74.39%
Medical Programs	4,398,000	21.99%
Coop Extension/Research	724,000	3.62%

9. A special funding adjustment shall be made for funding inadequacies attributable to the mission change from two-year to four-year status at Missouri Southern State University and Missouri Western State University. The adjustment is calculated for each institution by multiplying the upper division annualized WFTE by the standardized funding rate established in item 7. This funding will be recommended in two equal installments during FY 2011 and FY 2012 as illustrated on the attached simulation.
10. A special funding adjustment shall be made for those institutions that have experienced enrollment increases in excess of 1,000 FTE student between fall 2000 and fall 2006. The adjustment is calculated by converting student FTE

growth to annualized weighted FTE change and multiplying the result by the standardized rate established in item 7. The institutions eligible for an enrollment growth funding adjustment include Missouri State University, Southeast Missouri State University, and the University of Missouri. This funding will be recommended in two equal installments during FY 2011 and FY 2012 as illustrated on the attached simulation.

11. The model shall recognize and fund enrollment growth that represents a significant change in the number of WFTE students being served by an institution. Changes in the three-year rolling average WFTE (plus or minus) may warrant an adjustment in funding. Funding for eligible enrollment change shall be funded at a marginal funding rate per WFTE student. The marginal funding rate shall be 55% of the average funding rate per WFTE student.
12. Every two to three years, the cost-ratio matrix shall be reviewed and updated to reflect changes in academic-discipline/student level cost ratios.
13. The distinctive characteristics of medical programs (i.e., medicine, dentistry, and veterinary medicine) and cooperative extension and cooperative research (agriculture) necessitates separate calculations of resource requirements for these programs. Funding for medical programs at the University of Missouri shall be based on national comparative data and provide funding comparable to the 50<sup>th</sup> percentile nationally for public medical programs. Cooperative extension funding for Lincoln University and the University of Missouri shall be benchmarked to the USDA north central region and to four states in the USDA southern region contiguous to Missouri. This reference group of states shall have a comparable client base to Missouri (i.e., size of population, number of farms, youth populations, and number of small businesses). Funding for cooperative extension shall be set at the average (mean) of the reference group states. Any funding gap associated with cooperative extension shall be distributed between Lincoln University and the University of Missouri on a 50/50 basis until Lincoln University reaches the required dollar for dollar match on its federal funds. Once the matching requirement is satisfied, any additional gap funding shall be distributed proportionate to federal funding received by each institution. Cooperative research (agriculture) at both Lincoln University and the University of Missouri shall be funded annually through state appropriations in an amount sufficient to meet the required federal match for these programs.
14. Periodically, funding adjustments may be required beyond those reflected by the funding model where a five-year mission review identifies a special need to supplement existing funding.

## MCCA Presidents and Chancellors Council Funding Equity Recommendation

**Charge:** Through the Higher Education Funding Task Force, MCCA was asked to review the current funding equity adjustment process and to develop an alternative model. The following goals were developed by the Council to guide the development of the new model:

1. The overarching philosophy is that this new distribution model be simple and easy to understand.
2. The model should be an “all funds” approach.
3. The funding model should be enrollment sensitive but not driven solely by enrollment.
4. The tax base should be considered and local effort measured. On balance the relative wealth of the service region should be factored. This will be measured against tuition rate and fees.

**Recommendation:** In years in which the community college core appropriation exceeds 2.5 percent, an adjustment of 0.5 percent of the total state aid excluding any Strategic Initiative funding arising in FY 2009 or later will be distributed on a proportionate basis to those eligible for an equity adjustment.

In an all funds model, institutions shall be ranked from high to low based upon their tuition rate (maximum points for highest tuition rate), and from high to low based upon the approved tax rate (maximum points for highest tax rate levied), and from low to high on the assessed value of the taxing district per FTE (maximum points for the lowest assessed value per FTE). Finally, the institutions shall be ranked from high to low, on the total state aid per FTE (maximum points for the lowest state appropriation per FTE). This ranking shall be used to identify those institutions with the overall lowest access to tuition, tax, and state support and shall serve as savings clause that relieves those institutions from contributing to the equity distribution pool.

One-half of the available equity funds shall be distributed based upon the institution’s share of points awarded for the all funds factors.

One-half of the available equity pool shall be distributed to colleges where the total state aid allocation per FTE falls below 85 percent of the mean total state aid per FTE.

**Rationale and Assumptions:** In order to address issues of equity in the distribution of state funds and at the same time to protect all member colleges’ financial viability, the following assumptions guide this distribution model:

Assumption 1: Equity rather than equality should be the goal of any funding distribution model. Reaching equality would mean balancing so many variables that it becomes a practical impossibility. Equity is a simple, mathematically elegant solution that seeks only a defensible degree of distribution.

Assumption 2. One-half of the available equity pool shall be distributed to address disparity arising from an “all funds” consideration that recognizes local maintenance fee effort, local tax capacity (assessed valued) and local tax burden (tax rate), and state appropriation. The institutions shall be arrayed based upon the score with those institutions with the lowest wealth relieved from contributing to an equity pool. The highest wealth institutions would not be eligible to receive from this phase of the distribution. Natural separations in the rankings will guide the determination of the divisions within the group.

Assumption 3: The remaining one-half of the equity pool will be distributed in the traditional state aid funding for FTE model. While any number of colleges may fall at or above 15% of the mean, some process of equity adjustment should be developed that addresses the needs of those colleges falling below 85% of the mean. The 15% mean point is a historic artifact from previous allocation models.

Assumption 4: The total dollars involved in any equity adjustment for colleges falling below 85% of the mean should be distributed among or between these colleges in proportion to the amount they fall below the mean.

## POTENTIAL STRATEGIC INITIATIVES

### *Access to Success*

#### **WHAT IS ACCESS TO SUCCESS?**

Access to Success is a strategic initiative to improve the participation and academic success of “at-risk students” attending Missouri’s colleges and universities. The desired outcomes of this initiative are:

- Increased participation in higher education of traditionally underserved populations
- Increased retention rates of “at-risk students” from the first to the second year of college
- Improved competencies and mastery of basic verbal, quantitative, and analytical skills
- Increased associate and baccalaureate degree completions of “at-risk students”

“At-risk students” are defined as those students with a lower chance of succeeding academically in colleges due to inadequate preparation and mastery of basic numerical and verbal skills. For purpose of allocating Access to Success funds to four-year institutions, an “at-risk student” is defined as any student with ACT/SAT sub-score(s) in mathematics, or reading, or English below college readiness benchmarks indicating a low probability of academic success without appropriate remediation. For purpose of allocating Access to Success funds to two-year institutions, an “at-risk student” is defined as any student with ASSET sub-score(s) in numerical, or writing, or reading skills indicating a low probability of academic success without appropriate remediation.

#### **WHY ACCESS TO SUCCESS?**

- To close the educational gap between underserved populations and those traditionally served by higher education.
- To incentivize colleges and universities to provide programming support to assist “at-risk students”, so they can persist and complete their degrees.
- To ensure that undergraduates possess the requisite skills and abilities to be effective workers and engaged citizens.
- To incentivize colleges and universities to help undergraduate students complete their degree in a timely fashion.

#### **HOW THE ALLOCATION OF FUNDS FOR ACCESS TO SUCCESS WORKS?**

- Each four-year institution receives a portion of the Access to Success funds based on its proportionate share of academically “at-risk students” as determined by ACT college readiness benchmarks in Reading (score 21) or English (score 18).
- Each two-year institution receives a portion of the Access to Success funds based on its proportionate share of academically “at-risk students” as determined by an approved assessment instrument (ASSET or other) indicating a deficiency in one of the following basic skills: writing or reading.

- Each two-year institution receives a portion of the Access to Success funds based on its proportionate share of “at-risk students” completing a to be determined number of credit hours with a grade point average of at least 2.0.
- Each four-year institution receives a portion of the Access to Success funds based on its proportionate share of “at-risk” first-time degree-seeking freshmen with at least 24 credit hours and a grade point average of at least 2.0.
- Each two-year and four-year institution receives a portion of the Access to Success funds in proportion to its share of total statewide associate or baccalaureate degrees awarded to or, for two-year institutions, successful transfers involving “at-risk students”.

### *HOW ARE ACCESS TO SUCCESS FUNDS USED?*

- Access to Success funds may be used at the discretion of each institution to improve support service for “at-risk students”.

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## *Teachers for the Future*

### *WHAT IS TEACHERS FOR THE FUTURE*

The Teachers for the Future initiative is a program to improve K-12 student learning outcomes. The initiative seeks to accomplish this outcome by stimulating the development of teacher education programs of excellence at selected universities; in turn, these programs would become exemplars for other institutions and would offer lessons learned about best practices, thus improving the quality of teacher graduates produced by a broad range of universities. This program will:

- Produce teacher education graduates with higher levels of mastery of subject matter and pedagogical content knowledge that will allow them to teach more imaginatively and productively.
- Ensure that teacher candidates acquire and demonstrate mastery of literacy and numeracy skills, and that they are prepared to teach them, irrespective of the level at which they will be teaching.
- Ensure that elementary school teachers learn the core structure of multiple disciplines and are prepared to teach content knowledge in a variety of subjects.
- Provide teacher candidates with skills and abilities to evaluate and use new technologies to facilitate teaching and learning.
- Educate teacher candidates on the significance of cultural diversity and its impact on effective teaching.
- Provide an integrated clinical-practice and a two-year residency mentoring induction experience for all graduates of teacher education programs.
- Establish strong partnerships between K-12 schools and university teacher education programs.

### *WHY TEACHERS FOR THE FUTURE?*

A well-educated workforce and citizenry begins with having well-educated and trained teachers in the public school system. Without highly qualified teachers expertly trained in their subject matter field, the likelihood of improving the educational level and workforce readiness of future generations is questionable. According to a recent report from the Carnegie Corporation:<sup>5</sup>

... recent research based upon thousands of pupil records in many different cities and states establishes beyond doubt that the quality of the teacher is the most important cause of pupil achievement. Excellent teachers can bring about remarkable increases in pupil learning even in the face of severe economic or social disadvantage. Such new knowledge puts teacher education squarely at the focus of efforts to improve the intellectual capacity of school children in the United States. More than ever, the nation needs assurance that colleges and universities are educating prospective teachers of the highest quality possible.

In Missouri:

- Two-thirds of 7<sup>th</sup> to 12<sup>th</sup> graders are taught by qualified teachers, while among top-performing states 80% are taught by qualified teachers.
- Eighth graders perform poorly on national assessments in reading, writing, mathematics and science relative to top-performing states.
- A very small percentage of 11<sup>th</sup> and 12<sup>th</sup> graders score well on Advanced Placement tests.
- One-fourth of 9<sup>th</sup> graders do not graduate from high school.
- A significant percentage of “at-risk” elementary and secondary students fail to complete their public school education.

### ***HOW THE ALLOCATION OF FUNDS FOR TEACHERS FOR THE FUTURE WORKS?***

- Each teacher education program in a four-year institution receives a percentage of the Teachers for the Future funds based proportionately on the number of undergraduate teacher education graduates scoring between the 50<sup>th</sup> and 80<sup>th</sup> percentile on Praxis Series for teacher licensure and certification.
- Each teacher education program in a four-year institution receives a percentage of the Teacher for the Future funds based proportionately on the number of undergraduate teacher education graduates scoring above the 80<sup>th</sup> percentile on Praxis Series for teacher licensure and certification.
- Each two-year institution receives a percentage of Teachers for the Future funds based proportionately on the number of graduates who successfully obtain an AAT degree, or for students who transfer with 42 credit hours and are admitted to a participating four-year teaching program.
- Each teacher education program in a four-year institution receives funds to develop and provide a three-year mentoring program for new undergraduate teacher education graduates to increase the retention rate of teachers in the classroom.
- To remain eligible for Teachers for the Future funds, participating programs must be reviewed and re-accredited by the Department of Elementary and Secondary Education.

### ***HOW ARE TEACHERS FOR THE FUTURE FUNDS USED?***

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- Teacher education programs use these funds to implement innovative changes in the teacher training curriculum corresponding to current best practices in the profession, e.g., Teachers for a New Era initiative sponsored by the Carnegie Corporation.
  - Teacher education programs use these funds to develop partnerships with K-12 public schools; to support expanded clinical practice experiences; and to establish residency mentoring support for new teacher education graduates for the first two years of their teaching experience.
  - Funds are used to support ongoing research and evaluation of learning outcomes of teacher education graduates and to continue improvement and make relevant teacher preparation curriculums.
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## *Promoting Economic Development and Fostering Vibrant Communities: Research and Service*

### *WHAT IS THE RESEARCH AND SERVICE INITIATIVE?*

The Research and Service Initiative is a program of targeted investments in basic and applied research and service activities that enhance the economic viability of the state and that address “real life” issues facing people and their communities. Desired outcomes include:

- Creation of new products and services for commercialization; increases in patents; and establishment of spin-off companies.
- Revitalization of business districts, support for small business entrepreneurs, and enhanced tech transfer.
- Safe healthy communities and civic renewal and engagement by citizens in community-based institutions and organizations.
- Improved environmental conditions (i.e., infrastructure, energy conservation, renewable resources, etc.).
- Improved health for Missouri citizens through the creation of new therapeutic regimes and diagnostic procedures.

### *WHY RESEARCH AND SERVICE INITIATIVE?*

- The state’s economic growth is directly linked to the amount of research and development spending in the state.
- The results of basic and applied research are directly tied to the commercialization of intellectual property (i.e., patents) which frequently attracts venture capitalists and leads to the creation of new spin off companies.
- Breakthroughs in life science research produce new delivery modes and treatments for some of our major health issues of the day.

- Applied research, particularly in the social and behavioral sciences, bring practical solutions to issues facing communities (e.g., crime, poverty, substance abuse, neighborhood revitalization, teenage pregnancy, and literacy).
- Basic and applied research provides the solutions to significant infrastructure issues such as homeland security, utilities and telecommunications, and transportation.
- The outcomes of university research contributions to: objective information to inform economic and public policy; technology transfer of newly developed knowledge to industry; support of new entrepreneurial futures; technical advisory assistance to small businesses; and establishment of joint university-private enterprises.

### ***HOW THE ALLOCATION OF FUNDS FOR THE RESEARCH AND SERVICE INITIATIVE WORKS?***

- Institutions receive 2% of their actual restricted direct expenditures for externally sponsored research in the prior fiscal year.
- Institutions receive 2% of their actual restricted direct expenditures for externally sponsored public service activities in the prior fiscal year, including those for economic development and community outreach purposes. Excluded are direct federal appropriations for cooperative extension and agricultural experiment stations.
- The balance of the Research and Service Initiative funds could be distributed on the basis of competitive applications for projects supporting economic development and community service priorities of the state. Proposals could be subject to a peer review process.

## ***Workforce Needs for Regional and Global Competitiveness: METS Initiative***

### ***WHAT IS METS?***

The METS Initiative is a program designed to develop the critical mass of human talent needed to support strategic industries key to Missouri's future regional and global competitiveness. The METS Initiative:

- Meets future workforce needs in occupational fields requiring education, training, and skills development in science and technology (i.e., mathematics, engineering, technology, and science)
- Provides support for employers needing focused workforce training programs
- Supports economic growth in cluster industries essential to Missouri's future
- Helps attract, develop, and retain new businesses strategically important to the state's economy
- Ensures Missouri's economic competitiveness, regionally and globally.

### ***WHY METS?***

- Missouri’s P-20 Council has identified improvement in science and technology (METS) competencies as critical to meeting the workforce demands in occupational areas linked to key industries in the state.
- Sustained growth and innovation are keys to maintaining competitiveness in the global economy and require integrated investments in science and technology (METS).
- The state’s abilities to remaining economically viable in the long-term requires investing in workforce training systems that provide workers the opportunity to improve technical skills and abilities to compete in the 21<sup>st</sup> century.
- The ability of the state to attract new businesses and support entrepreneurial ventures is dependent on the availability of a highly educated workforce equipped with technology expertise and skills that enable them to be productive in a fast-paced knowledge oriented economy.
- There is a growing gap between degree completions in science and technology fields and projected employment needs in Missouri.
- A technical skills gap exists in the state’s incumbent workforce relative to skills required to meet the needs of targeted emerging industries in the state.

### *HOW THE ALLOCATION OF FUNDS FOR METS WORKS?*

- Each four-year institution receives a portion of the METS Initiative funds based on its proportionate share of students with declared majors in METS fields of study. In addition, each participating institution also receives a portion of METS funds based on its proportionate share of total degrees and certificates awarded (i.e., certifications, associate, baccalaureate, and graduate degrees) in METS fields of study (i.e., mathematics, engineering, technology, and science, including degrees in math and science education). Two-year institutions would also receive a share of funding based on four-year METS graduates who attended a community college.
- Two- and four-year institutions will also receive a portion of the METS funding based on total credit hours delivered in METS fields courses.
- A portion of the METS Initiative funds are distributed through incentive grants as a match for revenue provided by third party entities for specialized workforce training and development programs.
- A portion of the METS Initiative funds are distributed through competitive grants that support collaborative partnerships between higher education, public schools and the business sector that will increase the number of students graduating in METS fields of study or spawn the development of entrepreneurial ventures, innovation, and technology transfer applications.

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## *Protecting Investments: Maintenance and Repair*

### *WHAT IS PROTECTING INVESTMENTS?*

Protecting Investments is a strategic initiative to retain the value of the physical assets in public higher education, and improve the teaching and learning environment for students, faculty, and staff at Missouri's colleges and universities.

The desired outcomes of this initiative are:

- Updated facilities to address critical safety and accessibility issues
- Increased usage of environmentally friendly and efficient utility systems
- Increased support for the preservation of facilities to prevent early deterioration and more costly replacement

### ***WHY PROTECTING INVESTMENTS?***

- To preserve facilities, so they may be more effectively used in educational and research pursuits.
- To remain competitive in attracting and retaining students by providing high quality facilities and equipment.
- To provide an environment that supports enhanced teaching, learning, and research.
- To replace aged equipment that may limit the research capabilities in public higher education institutions.

### ***HOW THE ALLOCATION OF FUNDS FOR PROTECTING INVESTMENTS WORKS?***

- Each two-year and four-year institution receives on-going funding equal to 1.0 to 1.5% of the replacement value of its education and general facilities for annual maintenance and repair.
- To receive state funding, institutions are required to provide matching funds equal to the state's investment.

### ***HOW ARE PROTECTING INVESTMENT FUNDS USED?***

- Protecting investment funds are used for maintenance and repair projects that extend the useful life of educational and general facilities for their current purposes, and represent investments above the normal annual up-keep of facilities. Examples include, but are not limited to, roof repair/replacement, repair/replacement of building environment systems (HVAC), repair/replacement of core building infrastructure, etc. Protecting investment funds are not used for renovation, modernization, or adaptation for new use.

## Performance Funding – Illustrative Example

**Student Learning: Assessment of General Education**  
**Actual Performance Funding Items will be Driven by *Imperatives for Change***

**Points:** Points will be accumulated for this assessment based on the comparison made by the institution in one of the two ways with a maximum point total of 10:

1. Improvement relative to prior performance, or
2. Performance relative to an established benchmark.

**Descriptor:** Institutions are to assess undergraduate student using a standardized nationally normed test of general education. Institutions may use College Basic Academic Subjects Examination (College BASE), Collegiate Assessment of Academic Proficiency (CAAP), Measure of Academic Proficiency and Progress (MAPP), or other national normed general education assessment to measure student learning.

**Purpose:** This standard is designed to provide incentives to institutions for improvements in the quality of their undergraduate general education program as measured by the performance of graduates on an approved standardized test of general education.

**Evaluation:** General education testing is measured by the overall performance (mean score) of an institution. National norms should be drawn from similar Carnegie type institutions, including an accounting for selectivity. Performance is evaluated by comparing the institutional average score with the national average for the appropriate Carnegie type reference group and express as a percentage of the national average (no percent attainment may exceed 100%).

### General Education Assessment

#### Improvement Relative to Prior Performance

<b>Institution Improvement Over Prior Year</b>	0%	1% to 2%	3% to 5%	6% to 7%	8% to 9%	10%
<b>Points</b>	0	2	4	6	8	10

or

#### Performance Relative to Benchmark

<b>Institution % to National Avg.</b>	Below 70%	70% to 75%	76% to 81%	82% to 87%	88% to 93%	94% to 100%
<b>Points</b>	0	2	4	6	8	10

## Performance Funding - Illustrative Example

### Student Learning- Major Field Assessment Instrument or Certification/Licensure Examination

**Actual Performance Funding Items will be Driven by *Imperatives for Change***

**Points:** Points will be accumulated for this assessment based on the comparison made by the institution in one of the two ways with a maximum point total of 10:

1. Improvement relative to prior performance, or
2. Performance relative to an established benchmark

**Descriptor:** Institutions are to assess graduates at all levels using a national standardized major field test or licensure examination. In major areas in which national standardized tests are not available, institutions may develop test instruments. Such test should be pilot tests and validated to provide for evaluation and to develop scores or subsequent comparisons. For those undergraduate students required to pass a licensing examination to practice their profession, licensure examination scores may be used in lieu of assessment in major field.

**Purpose:** This indicator is designed to provide incentives for institutions to improve the quality of major field programs as evaluated by the performance of graduates on approved examinations.

**Evaluation:** Performance on major field is considered successful if the test score is either at or above a recognized norm or show improvement over the institution's most recent test score.

#### Improvement Relative to Prior Performance

<b>Institution Improvement Over Prior Year</b>	0%	1% to 2%	3% to 5%	6% to 7%	8% to 9%	10%
<b>Points</b>	0	2	4	6	8	10

**or**

#### Performance Relative to Benchmark

<b>Institution % to National Avg.</b>	Below 70%	70% to 75%	76% to 81%	82% to 87%	88% to 93%	94% to 100%
<b>Points</b>	0	2	4	6	8	10

## Performance Funding - Illustrative Example

## Total Degrees and Certificates Awarded

### Actual Performance Funding Items will be Driven by *Imperatives for Change*

**Points:** Points for this assessment will be accumulated based on the public higher education system as a whole with a maximum point total of 10. Points will be tallied differently for degrees and certificates awarded, and the number of undergraduates who complete the 42 hour general education block and transfer to a four-year institution.

**Description:** Degrees and certificates awarded annually to undergraduates will provide the basis for this assessment.

**Purpose:** This indicator is designed to provide incentives for institutions to improve efficiency and increase the number of undergraduate degrees and certificates.

**Evaluation:** Performance is evaluated based on the entire system’s ability to increase the number of degrees and certificates awarded, and the number of undergraduates who complete the 42 hour general education block and transfer to a four-year institution. Maximum funding received for this indicator will be prorated based on the whole public system percent increase with a maximum of 100% of funding being allocated. Each institution will then receive its proportional share of funding based on its percentage of the total number of degrees and certificates awarded.

### Increase in Degrees and Certificates Awarded - measurement of the public system as a whole

<b>Total System % Increase in Degrees and Credentials</b>	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
<b>Points</b>	0	1	2	3	4	5	6	7	8	9	10

## AGENDA ITEM SUMMARY

### AGENDA ITEM

Curriculum Alignment Initiative Update  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

As part of SB 389 which was signed into law August 28, 2007, presidents and chancellors of public institutions or their designees were charged to work with the Commissioner of Higher Education in the development of competencies for first general education courses in key disciplines. As an added incentive, eligibility for new institutional funds beginning with FY 2009 has been linked to evidence that this work is moving forward. The intent of this agenda item is to present the first report of the Curriculum Alignment Initiative (CAI) to the CBHE for review and approval.

#### **Background**

For the past year, MDHE staff has facilitated the CAI project with volunteer representatives from across the state's public institutions along with colleagues from secondary education. Progress reports were presented to the CBHE at each of its regularly scheduled meetings. The work has been arduous, time consuming, and challenging, especially since consensus is being sought with representatives from different institutions and across educational levels.

#### **CAI Structure**

A two-tiered structure has been used to ensure extensive participation throughout the state, while concurrently ensuring that coherence across separate disciplinary groups are evident. CAI is composed of the Curriculum Alignment Steering Committee (CAS) and seven voluntary educator workgroups in each of the following academic disciplines:

- Arts and Humanities
- Engineering and Technology
- English and Communications
- Foreign Languages
- Mathematics
- Sciences
- Social Sciences

Each discipline workgroup was charged with identifying the first general education courses in their discipline and developing both broad disciplinary entry- and course exit-level competencies. The CAS was charged with coordinating the work of the seven discipline groups

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June 12, 2008

and identifying revisions to existing and potentially new policies and procedures that will be required to ensure full implementation by public colleges and universities.

The entry-level competencies are designed to send single messages to students in the pipeline about the important skills and knowledge that should be mastered to be successful in first courses at the collegiate level. Exit-level competencies focus on content knowledge that should be mastered at the end of the first college-level courses in key disciplines as a foundation to ensure transferability of credit for these courses among institutions.

By its very nature, CAI has focused its entry-level competencies work on the minimum expectations for all students who aspire to have access to collegiate coursework. It should be noted that many fields will require students to master additional competencies while still in high school for adequate preparation into majors that prepare students for professional careers. As a result CAI is also developing optimal entry-level competencies that students in the pipeline should master to be successful in these specialized fields.

### Process

Almost 400 individuals have participated in the CAI process over the last year. The initiative was intentionally structured to be a collaborative, grassroots process that welcomes perspectives from all educational stakeholders—legislators, the public, students, secondary & postsecondary practitioners and administrators, as well as state boards and agencies. The questions, concerns, and suggestions developed through work session conversations and gathered online directly informed the CAI Steering Committee, Workgroups, and Coordinators, as well as MDHE staff and policy makers.

As work progresses to the policy stage, the CAI will continue to engage all participants as an integral component to the success of the process.

### Progress to Date

The magnitude of this project, the commitment of those volunteers involved, and the thoroughness of the revision process cannot be understated. It has been a huge task to develop a complete set of threshold competencies across all disciplines and exit competencies in 13 courses. This work could not have been completed without the labor intensive work of faculty and teachers from across Missouri. Their passion and commitment to teaching and learning, outside of institutional alliances, and focus on students has enabled CAI's accomplishments. The entry- and exit-competencies represent over 830 individual competencies.

### Entry-Level Competencies

Faculty and K-12 educators developed initial entry-level competencies drafts using extensive resources, including K-12 standards, Standards for Success, ACT, SAT, Achieve, and discipline-specific documents. Multiple meetings were held in fall 2007 to define minimum entry into each discipline and shape initial drafts. Further internal electronic dialogue in each workgroup took place before producing a public draft. Each competencies draft underwent a two-month public

comment period (ending January 1, 2008) open to any interested constituents. Over 400 comments were received. Workgroups then held additional meetings to consider public comment and made revisions to the drafts based on feedback before submission to the Steering Committee in February 2008. The Steering Committee provided additional feedback and suggestions for revision that were completed before inclusion in the final report.

### *Exit-Level Competencies*

Efforts in exit competencies centered on defining the essential core competencies necessary for completion of beginning general education courses. A prioritized set of 13 courses was selected for initial competencies development; additional courses will follow. While the work of the exit competencies was more focused on faculty participation, K-12 educators involved in dual credit delivery were also involved. Meetings to develop initial exit competencies were held in late 2007 and early 2008. The development of exit competencies extensively used current course practice across Missouri institutions and national disciplinary resources. After internal discussion and development of initial drafts, the exit competencies were placed on a one-month comment period in February 2008. Participants felt that the exit-competencies were a much more intuitive process and, based on revisions made prior to public posting, most controversial issues were already resolved. As a result only a small number of public comments were received (approximately 50 comments). Revisions based on public comment were primarily conducted electronically before submission to the Steering Committee in March 2008. Final revisions based on Steering Committee review were finished before presentation in the final report.

### *Purpose Realized*

Since its inception, this work was designed to promote grassroots support for competencies work. The ownership of these competencies has rested in the hands of the faculty and K-12 educators who developed and shaped the competencies. It is clear that the revision process has produced a high quality set of competencies to date; it represents CAI participants' finest efforts. At the same time, CAI and those involved are committed to working on next steps as well as continuing to make appropriate adjustments to the competencies.

The scope of work outlined in the CAI Report clearly demonstrates that curriculum alignment legislation has been taken seriously. MDHE has made significant progress toward fulfilling the statutory obligations outlined in Senate Bill 389.

### **Policy Implications**

MDHE staff has worked with the CAI Steering Committee to identify a number of policy implications resulting from the work of the CAI. The main policies affected are: placement, dual credit, general education, transfer of single general education courses, and assessment. A more in-depth discussion of each of these policy areas can be found in the full report attached.

## **Next Steps**

While it is clear that MDHE and CAI have shown due diligence in accomplishments over the last year, curriculum alignment is a process rather than a destination and requires further effort. By approving the CAI Report, the CBHE will be acknowledging this important work and reinforcing the importance of continued work on this vital effort. With approval from the Board, work will continue over the next year to:

- develop assessments for both the entry- and exit-level competencies;
- complete review of the mathematics gap analysis and make changes as appropriate;
- develop course-level exit competencies for additional courses beyond the initial 13;
- finalize cross-disciplinary and optimal entry competencies;
- disseminate competencies to all public constituents;
- conduct an impact review of existing policy; and
- develop appropriate policy revisions and/or new policies.

## **STATUTORY REFERENCE**

Section 173.005.2(7)(10), RSMo, Curriculum Alignment, Fines

## **RECOMMENDED ACTION**

**It is recommended that the Coordinating Board for Higher Education approve the Curriculum Alignment Initiative Report, with recognition of the dynamic nature of competencies.**

**It is further recommended that the Board direct the Commissioner of Higher Education to make the CAI Report available online to interested government agencies and constituents as evidence of MDHE's significant progress in fulfilling its statutory requirements.**

**It is also recommended that the Coordinating Board for Higher Education commend the arduous efforts undertaken by the participants and educational institutions involved in the CAI process.**

## **ATTACHMENT**

Curriculum Alignment Initiative Report

**Missouri Department of Higher Education  
Curriculum Alignment Initiative  
Report for  
The Coordinating Board for Higher Education  
June 12, 2008**

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## **1. Introduction**

This document reports the mission and progress of MDHE's Curriculum Alignment Initiative (CAI) from inception in June 2007 to present. Further background information can be found at: [www.dhe.mo.gov/casinitiative.shtml](http://www.dhe.mo.gov/casinitiative.shtml).



## Building Missouri's future...by degrees

### **Statement from the Commissioner of Higher Education**

In Missouri and throughout the Nation, it has become increasingly clear that many high school students lack the preparation necessary for a successful transition from secondary to postsecondary education. The gap that exists creates the need for extensive remedial education, and presents unnecessary barriers to prospective collegiate students wanting to better themselves through increased educational attainment. To a lesser extent, persistence to undergraduate graduation is also affected by successful transfer of credit for students who attend more than one collegiate institution.

As part of the higher education omnibus bill (SB 389) passed by the Missouri legislature in May 2007, the transition from secondary to postsecondary education as well as the movement of college students from one collegiate institution to another were established as priorities for work of the Missouri Department of Higher Education (MDHE).

In anticipating the bill's passage, MDHE staff immediately began establishing the necessary ground work to get a new Curriculum Alignment Initiative (CAI) underway. For the past year, approximately 400 college faculty and administrators, secondary school teachers, and representatives from both the Department of Elementary and Secondary Education and MDHE have worked collaboratively in developing a competencies model that defines the skills and knowledge that should be mastered by high school graduates to be successful in beginning collegiate courses in key disciplines as well as competencies that should be mastered when completing these first courses to ensure their transferability for mobile students.

The work has been arduous, time consuming and challenging, especially since consensus is being sought with representatives from different institutions and educational sectors. A common frame for all participants, however, has been a passion for teaching and learning and a belief in the importance of this work for all students. The attached report includes both entry- and exit-level competencies for first courses in key general education disciplines and outlines next steps in the process of ensuring alignment with K-12 and transferability of academic credit. While the CAI framework has emphasized minimal competencies, work is also being completed on optimal competencies for student pathways that will lead to careers in many professions.

By its very nature, a competencies model must be dynamic and will require periodic review and revision to stay current. It will also require aligned assessments to be effective. At the same time the foundation that has been established by these initial competencies will have significant impact on Missouri's students and demonstrates a responsiveness of our higher education system to the demand for more accountability.

On behalf of the Coordinating Board for Higher Education and the Missouri Department of Higher Education, I express gratitude and deep admiration to the dedicated educators who have steadfastly worked on this project.

Robert B. Stein  
Commissioner of Higher Education  
June 2, 2008

### 3. Curriculum Alignment Initiative

#### Background

Senate Bill 389, passed in 2007 (Appendix A, page 18), directed public colleges and universities to work with the Commissioner of Higher Education to develop entry- and exit-level competencies for beginning general education coursework. In order to fulfill these mandates the MDHE Curriculum Alignment Initiative (CAI) was established. CAI is composed of the Curriculum Alignment Steering Committee (CAS) and seven voluntary educator workgroups in each of the following academic disciplines:

- Arts and Humanities
- Engineering and Technology
- English and Communications
- Foreign Languages
- Mathematics
- Sciences
- Social Sciences

Each disciplinary workgroup was charged with identifying the first general education courses in their discipline and developing both broad disciplinary entry- and course exit-level competencies. The CAS was charged with coordinating the work of the seven disciplinary groups and identifying policies and procedures to ensure full implementation by public colleges and universities (independent institutions will be encouraged to review and utilize these competencies as well).

The work of the CAI is part of the MDHE strategy to increase participation in higher education and to smooth pathways for students entering into and progressing in higher education. The goal of this work is to improve the college readiness of high school students throughout Missouri, by clearly articulating what it means to be college ready, and to smooth the transfer of entry-level collegiate courses when students move from one institution to another. CAI is also driven by the work of the Mathematics, Engineering, Technology, and Science (METS) Coalition, as well as the P-20 Council and the Director of Education and Workforce Innovation.

#### CAI Vision

Collaboratively develop a competencies model for beginning-level general education that ensures student preparedness for collegiate-level coursework and portability of beginning general education course credit among Missouri postsecondary institutions.

#### Points of Transition

A central concept in the development of the CAI was the recognition that dependence on a single continuum as a foundation was inadequate. Reliance on course titles and credits is not sufficient as increasing numbers of entering students require remediation or do not successfully persist and complete college.

CAI sought to delve under the surface of alignment as merely requiring that the first course in college pick up where the last course in high school left off. There had to be an anchor to which K-12 educators and students could confirm college readiness and from which postsecondary faculty could move forward. The intent of entry-competencies is to form a line of demarcation between secondary and postsecondary level work.

While development of entry competencies recognized content knowledge and skills were of critical importance, it was also clear that competencies crossing the discipline areas were an important element in adequate preparation. Knowledge and skills that cross the disciplines, such as critical thinking and study habits, create a foundation on which other specific content skills may be built. Fostering collective responsibility for these skills will ensure their integration into adequate college preparation.

Exit competencies align more clearly with the traditional course system by their basis in the course-level unit of analysis. However, exit competencies do not seek to uncover the competencies traditionally suggested by course title alone, and instead delineate the specific competencies students should master upon successful completion of that course.

This approach seeks to uncover those areas where assumptions by multiple educational systems and sectors about a single concept (e.g. college readiness, general education course credit), while well intentioned, have contributed to misalignment in the P-20 pipeline. CAI seeks to bring a diverse group of educators to the table to articulate and center common definitions for these important points of educational transition.

### **Competencies Model**

For a student to be successful upon entrance into collegiate-level coursework and beyond, it is critical for that student to become responsible for and master a set of competencies that prepares them to learn in the college setting. To realize this ideal, a major paradigm shift will be necessary.

There are several steps involved in shifting to an effective competencies model:

1. Articulate implicit expectations for students entering into and exiting from higher education courses. By establishing clearly expected norms, expectations will be raised for students who aspire to enter college.
2. Link the competencies to assessment, ensuring that the CAI work does not simply end up on a shelf.
3. Identify policy implications in key areas (e.g. dual credit; remediation/developmental education; transfer policies) to reinforce policy alignment.
4. Stipulate an agreed-upon implementation schedule for competencies standards as well as any related policy revisions, for a smooth transition.

### **Assumptions**

The process of shifting to a competencies model approach is one that is based on several important underlying assumptions.

- This process will undertake a fundamental shift of multiple dimensions, (e.g. standards, curriculum, assessment, and policy) as well as having an impact across the P-20 continuum and its constituents (e.g. K-12, postsecondary, policy makers, administrators, educators, students, and families).
- Genuine systems change takes a significant time investment; however, to make progress responsible, earnest, and realistic timelines are necessary.
- Mastery of entry-level competencies will not be adequate for many students who aspire to professional careers, especially in mathematics, engineering, technology, and sciences (METS). In many fields, a basic level of preparation may be neither desirable nor sufficient for preferred institutional admission, persistence, timely completion, and successful entry into a profession.
- Delivery modes, while important, are outside the realm of CAI to dictate instruction at the institutional level; a balance between content and instructional practice should be maintained for optimal student learning.
- The CAI should be a dynamic model that will be continually be updated for currency and relevancy.

### **Relation to Institutional Selectivity**

Admissions selectivity categories at Missouri public institutions vary across the state from open enrollment to highly selective institutions. Institutions maintain the right to choose both their level of selectivity based on institutional mission and purpose and develop curriculum suitable to their student body. This tiered admission selectivity provides a balanced public higher education system which serves a diverse group of entering students. There is, however, collective responsibility across public postsecondary institutions to send consistent and forceful messages to students in the pipeline about what is necessary in preparation for college. While entry and exit points for a course may differ slightly depending upon the preparation levels of entering students, as a result of this work those in the pipeline will have a much better understanding of minimum thresholds necessary for access to collegiate work. Some students may in fact start at a different level and bypass that first course completely. Developing a common framework for beginning general education courses will also ensure the transferability of these courses across collegiate-level institutions.

By putting multiple institutions at the table simultaneously, CAI is looking for commonality on minimal thresholds. At the same time, it seeks to provide institutional flexibility to make local decisions about placement of both underprepared and prepared students. The diagram below is presented as a graphic illustration of an operational conceptualization representing the way the process would work once implemented.

Note the thick black line at bottom of the diagram. This is intended to represent a dividing line between underprepared and prepared students by establishing minimal thresholds that must be

met in order to be given access to collegiate level courses. The arrows down represent consistent messages to K-12 students. Those who are unable to demonstrate minimal competencies as high school graduates would be placed in developmental courses to address deficiencies.

Students who enter above the minimal threshold would undergo placement decisions by the local institution depending on their level of preparation. The two axes in the diagram represent the type of competencies that students would master in their first course in the discipline. The vertical axis represents content based skills in a particular discipline while the horizontal axis denotes those transferable skills that are acquired across the disciplines, such as study skills or critical thinking.

Mathematics is used for illustrative purposes in the diagram. The three boxes in the diagram are intended to represent a college algebra course at institutions with different admission selectivity (*solid* for open enrollment, *dotted* for moderately selective and *striped* for selective and highly selective). It is important to note, that each institution, including open enrollment institutions, would have flexibility at where to start and how far they would take students in the learning process. The diagram, however, represents typical patterns that would be expected from the CAI competencies model.

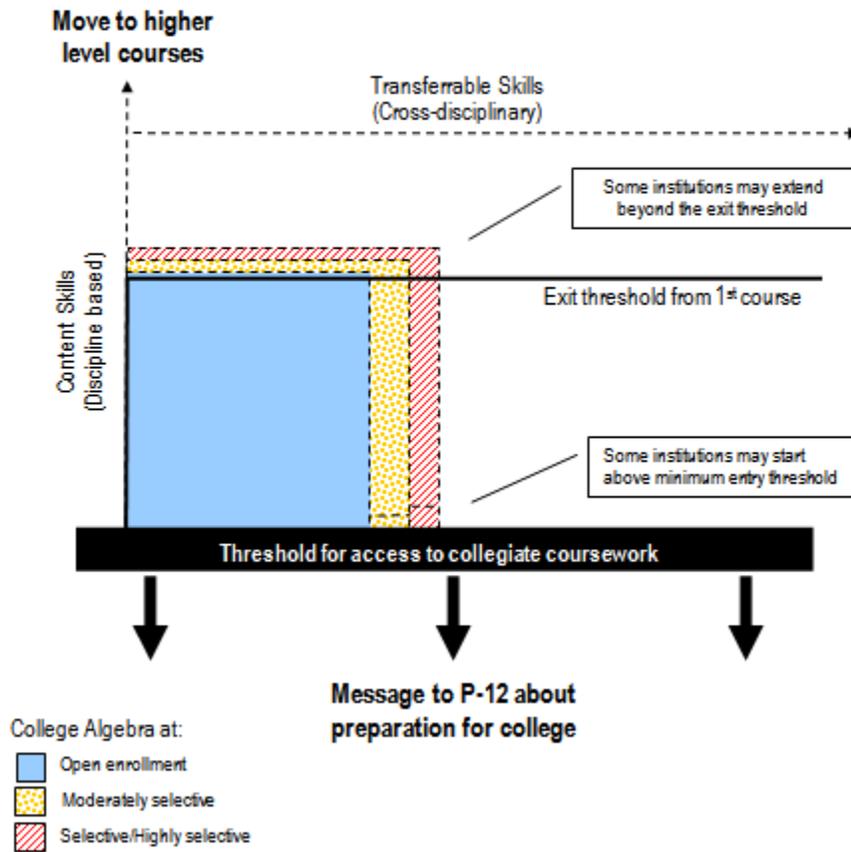
The *solid* box is the smallest, in this case, since students would be expected to start at the minimal competency level. On both the vertical and horizontal axes, *solid* courses would be expected to bring students to minimum exit-level competencies including the content skills (vertical axis) and cross disciplinary skills (horizontal axis) mastered<sup>1</sup>. Courses at *dotted* and *striped* institutions would cover all of the material in the *solid* box and beyond. Students in these courses might in fact achieve beyond minimal competencies identified on both axes; thus, the dotted line indicates the potential for different start and exit points based on the preparation level of entering students and the course dynamics during a particular semester.

The model assumes that a student body that enters just at the threshold for access to collegiate-level course work will focus most of their attention on mastering the content knowledge. While notable gains in their transferable skills will also be realized, much of the course time will be spent on purely content-related tasks. At higher selectivity-level institutions, greater gains would be expected for both content and cross-disciplinary skills. The student body that has the ability to start beyond the threshold point and/or easily master the content knowledge will have more course time devoted to deepen conceptual understanding and develop transferable skills, such as critical thinking or writing.

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<sup>1</sup> The CAI exit-level competencies are only content based.

## Entry- and Exit-Level Competencies for 1<sup>st</sup> College Course Across Diverse Institutions



## 4. CAI Competencies

### Entry-Level Competencies

#### *Completed Disciplinary Entry-Level Competencies (Entry-Cs)*

Entry-Cs are meant to outline the minimum threshold for success in collegiate-level coursework. Disciplinary competencies include Arts and Humanities; English and Communication; Foreign Languages; Science; and Social Sciences. A complete set of the Entry-Cs can be found in Appendix B (page 19).

During the process several characteristics of the competencies, or essential skills and knowledge, emerged.

The Entry-Cs vary in their level of detail dependent upon both the nature of the competency and discipline. For example, the hierarchical nature of mathematics would require a student be able to “Recognize and generate equivalent forms of fractions, decimals, and percents” (Mathematics Entry-Cs, I.3.), while the continuum nature of English allows more generalized competencies such as “Use a variety of sentence structures correctly” (English and Communication Entry-Cs, 3.a.) when describing sentence competences.

All the disciplines utilized a similar structure in the overall organization of the Entry-Cs. Many of the Discipline Workgroups provided a preface that outlined the rationale and resources as well as the conceptual approach used in development of competencies. In addition, the workgroups utilized a stem sentence with a lead into more specific and measurable statements of knowledge and skills expected, with variation in level of detail. This approach is represented in the General Life Sciences Entry-Cs (I.1.a.i-iv.) example below.

Example from the Science Entry Competencies:

#### General Life Sciences Competencies

- 1) Science understanding is developed through the use of scientific investigation, reasoning, and critical thinking.
  - a) Scientific inquiry requires the ability to gather and analyze information and ideas.
    - i) Apply sound library research skills (e.g., article searches, online databases).
    - ii) Evaluate a given source for its scientific credibility (e.g. web sites, product advertisements, use of personal testimony in place of scientific evidence, etc.).
    - iii) Read with comprehension and be able to summarize and draw conclusions from written material in basic science.
    - iv) Interpret data using various representations (e.g., graphs, tables, charts, and plots).

### *Cross-Disciplinary Competencies*

It became clear early in the CAI work that there was a need to also develop cross-disciplinary competencies considered to be fundamental for student success. Cross-Disciplinary Competencies serve as a foundation for content knowledge across the disciplines.

The draft Cross-Disciplinary Competencies can be found in Appendix C (page 42) and are organized into three areas:

1. Key Cognitive Skills or “Habits of Mind” (e.g. critical thinking, positive work habits)
2. Reading and Writing
3. Technology and Information Literacy

Cross-Disciplinary Competencies are currently undergoing revisions and will be placed on a one-month public comment period in mid-June 2008.

### **Optimal Entry Competencies**

The entry-level competencies developed by the discipline workgroups denote the minimum entry competencies for students wishing to pursue higher education. Many fields require additional preparation for successful and timely completion. For example, if a student is interested in a professional career in foreign languages, taking additional language and culture classes in high school would be essential. Students should seek to increase both the breadth and depth of knowledge in their potential fields of interest. Optimal competencies for entrance into professional practice fields should be layered on top of the minimal competencies to ensure students in the pipeline have accurate understanding of competencies needed for their chosen career.

#### *Mathematics, Engineering, Technology, and Science (METS) Optimal Entry Competencies*

The need for additional preparation is particularly clear in METS fields. The competencies needed for adequate preparation upon entrance into and for successful persistence in college for most METS fields are higher than the minimum competencies for access to beginning collegiate-level general education coursework.

Workgroups have developed competencies for optimal entry into engineering and math as well as engineering and information technologies, with science fields soon to follow. These competencies are currently undergoing a public comment period set to end in early July 2008. Revisions will be made based on feedback received. Draft optimal entry competencies can be found in Appendix D (page 50).

### **Exit-Level Competencies (Exit-Cs)**

Exit-Cs address the core competencies students should have mastered upon completion of a beginning general education course. A prioritized set of 13 courses was used to develop competencies from across the disciplines. This list was generated based on the foundational nature of courses and/or the preponderance of freshman enrollment. Future work will include

development of additional Exit-Cs for other beginning general education courses, in accordance with the mandate of Senate Bill 389. The exit-level competencies can be found in Appendix E (page 58).

Variation in Exit-Cs was affected both by the nature of the discipline and the delivery of the course across Missouri institutions.

The level of detail exhibited in the Exit-Cs could most often be attributed to the prevalence of essential core components within a course. For example, Introduction to Philosophy can be taught from either a historical or conceptual perspective, and the intent was to accommodate both in the competencies “Students will identify the major areas of philosophy and explain and analyze some of the major philosophical problems in several of these areas” (Introduction to Philosophy Exit-Cs, 1). In contrast, other courses contain much more specific knowledge that must be imparted as an essential element, for example the Missouri state requirements in government, and are reflected in the government competencies “Explain what the Electoral College is and how it works.” (American Government Exit-Cs, II.4.c).

Like entry-level competencies, the structure of Exit-Cs utilized a stem sentence with a lead into more specific and measurable statements of knowledge and skills expected. The foreign languages example (Foreign Language Exit-Cs, IV.1-2.) below exhibits this approach.

Example from the Foreign Language Exit Competencies:

#### IV. Speaking

- 1) Describe self with some hesitation using memorized words and phrases and can ask and answer simple questions on familiar topics such as self, family, and immediate surroundings.
- 2) Use simple phrases and sentences to describe where they live and people they know, making themselves understood by a sympathetic native speaker.

### Competencies Report Release

The entry- and exit-level competencies outlined in this report will be made widely available to all constituencies in both print and electronic format. Print documents will include summary information while more detailed competencies and examples will be available in a web format.

These competencies are meant to communicate collegiate coursework expectations, to raise students’ awareness of college readiness, and to encourage students—and all educational stakeholders who advise students—to select appropriate and rigorous coursework for future career and college success.

## 5. Public Policy Implications

The initial work of the CAI is the first step in a process designed to smooth the transition points of students embarking on postsecondary education. As part of a greater strategy to smooth the educational pipeline, its impact on a number of public policy issues has tremendous potential to improve student preparation and increase success. The following represent several of the issues that will be addressed as work continues to progress on the CAI.

### *General Education Policy*

In order to facilitate the transfer of students among institutions of higher education in the state, the CBHE supported the development of a statewide general education policy that ensures the portability of general education credit among Missouri's colleges and universities.

The model is structured on four general education knowledge (Social and Behavioral Sciences, Humanities and Fine Arts, Mathematics, and Life and Physical Sciences) and skill (Communicating, Higher Order Thinking Managing Information, and Valuing) areas with illustrative competencies. Students who complete a 42-hour block of general education credit have had opportunity to achieve the expectations outlined and the block is considered equivalent to corresponding blocks of credit at other public institutions and participating independent and proprietary institutions.

Institutions are committed to align their general education programs with this block of credit and faculty at each institution develops and teaches courses in a general education program in keeping with the knowledge and skill areas. The development of CAI exit level competencies for individual courses in general education has been guided by faculty and builds upon the foundation of goals and suggested competencies identified in the general education program policy. Based on the mandate of Senate Bill 389, exit competencies within individual general education courses will now be considered equivalent to corresponding credit at other public and participating independent and proprietary institutions. While institutions will continue to develop course and program articulations, transfer of general education course credit will now be ensured based upon having satisfied the exit competencies for a particular beginning general education course credit, in the absence of the 42-hour block.

In order to illustrate the relation between the General Education Policy competencies and the exit competencies developed for the first general education courses, CAI workgroups have developed a set of matrices comparing the illustrative general education 42-hour block competencies with each of the 13 course exit competencies. In the example below, one of the illustrative competencies from the Communicating area of the general education policy is aligned with corresponding competencies from the Freshman Composition Exit-Cs.

Example from General Education Illustrative Competencies/Freshman Composition Matrix:

**a. Communicating**

State-Level Goal: To develop students' effective use of the English language and quantitative and other symbolic systems essential to their success in school and in the world. Students should be able to read and listen critically and to write and speak with thoughtfulness, clarity, coherence, and persuasiveness.

Illustrative General Education Competency	First Course: Freshman Composition Sequence
analyze and evaluate their own and others' speaking and writing, conceive of writing as a recursive process that involves many strategies, including generating material, evaluating sources when used, drafting, revising, and editing.	1.g: Analyze and evaluate their own and others' speaking and writing 2.d: Communicate with few errors in grammar, usage, diction, and mechanics 3.d: Select and use appropriate patterns of organization for subject audience, and purpose <b>4—Understand and use a recursive writing process to develop strategies for generating, revising, editing, and proofreading texts</b>

A sample matrix for General Education Illustrative Competencies and Freshman Composition Exit Competencies is available in Appendix F (page 83). The complete set of matrices for the 13 course exit competencies will be available with the public web release.

*Assessment*

Dialogue and decisions regarding assessment will be mindful of the purpose, process, & commitment of institutions and educators to implement standards and revised policy, as well as newly adopted measures. Assessment instruments will respect differences among institutional missions, faculty flexibility & autonomy, and the multiple dimensions of distinct disciplines and student learning.

*Placement*

The placement of students into college-level or developmental (remedial) coursework is among the most significant issue that the CAI impacts. There is currently no statewide policy regarding access to collegiate-level coursework.

The lack of a consistent message for entering students has contributed to growing numbers of underprepared students placing into remediation. Increased percentages of high school graduates attending college may be another factor. The threshold for placement into credit-bearing courses at Missouri public institutions varies widely, adding to the confusing messages currently sent to college-bound students

Through CAI entry-level competencies, a statewide placement policy will be developed. This policy will establish the threshold for access to collegiate-level coursework and will enable public institutions in Missouri to speak collectively to educators, students, and parents about the necessary minimum levels of preparation for beginning college courses.

The driver for this placement policy will be assessment. Collaborative development and decisions will be necessary to develop appropriate assessments. Selection of appropriate entry competencies for assessment as well as decisions about assessment instruments will accompany placement policy development.

#### *Transferability without the 42-Hour Block of Credit*

CAI is mandated through Senate Bill 389 to develop course-level exit competencies in beginning general education coursework. The intent of this work is specifically to ensure transfer of these courses across all public institutions in Missouri.

Statewide General Education Policy currently allows for transferring a 42-hour core of general education coursework as a block. Other credit transfer guidelines in place suggest good practice approach to credit transfer but do not mandate acceptance of specific course credit.

Work is already underway to align exit competencies with the knowledge and content areas of the already approved forty-two hour block of general education credit that is part of the statewide articulated Associate of Arts degree. These alignment efforts with general education policy already in place will facilitate integration across Missouri institutions.

Future policy development will require collaborative development of assessment procedures that define satisfactory achievement of exit competencies while recognizing variation in course delivery. Policy will also specifically summarize courses accepted in transfer across Missouri public institutions and outline procedures for acceptance.

#### *Dual Credit*

CAI will directly impact two central areas of dual credit policy, student eligibility and assessment of student performance. Revisions to the policy will reflect the minimum threshold for access to collegiate level coursework. In addition, it will also be necessary to integrate policies regarding assessment of exit competencies upon course completion.

#### **Implementation**

Discussions regarding assessment and implementation will be ongoing to develop reasonable expectations and phase-in models to allow for student success while raising student expectations. This, like other aspects of the CAI, will continue to be a collaborative process that will seek to involve all constituents.

## 6. Partnerships

### K-12 Education

The CBHE, the Missouri Department of Higher Education (MDHE), Missouri postsecondary institutions, and the Missouri K-12 community share a common interest in promoting adequate student preparation as a foundation of enrollment, retention, and success in Missouri postsecondary institutions.

Accordingly, with collaboration across educational sectors, the CBHE has established a recommended 24-unit high school core curriculum guideline for students who plan to enroll in a Missouri college or university that is aligned with the State Board of Education requirements for graduation from Missouri high schools.

Higher education and K-12 representatives recognize the potential impact of this work of defining entry level competencies to strengthen P-20 education, impact changes and revisions to K-12 education, and changes to higher education. By having a unified and common focus of what Missouri expects students to know and be able to do upon entering higher education, CAI will clarify the roadmap K-12 education utilizes in preparing students for higher education. Representatives respect the goal of this committee to also develop exit competencies, address the issues of transferability, and the huge and significant undertaking of curriculum alignment across the secondary/postsecondary interface.

#### *Concurrent Mathematics Competencies Development*

Concurrent work in mathematics K-12 standards revisions recommended by the METS Coalition is underway at the Department of Elementary and Secondary Education. A gap analysis of the two sets of competencies has been performed to illuminate similarities and differences in the documents. The Mathematics Discipline Group Liaisons met with their K-12 counterparts to consider the gap analyses performed and to dialogue about next steps.

### Business and Industry Partnerships

It is the intent of the CAI to consider alignment between postsecondary education entry competencies and those needed for all postsecondary options. Recognizing the importance of extending a consistent message for all students, not just those immediately entering higher education, CAI endeavored to seek additional input from the business community regarding entry competencies. Currently underway is a survey to business leaders who belong to the Department of Economic Development's (DED) Industry Councils asking for feedback on essential competencies for students entering into the workforce directly from high school.

In addition, the MDHE is participating with DED on a project to outline competencies in occupations for eight of the state's priority industry clusters. This work will eventually provide tools for the CAI (and Missouri postsecondary institutions) to consider competencies in light of industry needs.

DRAFT

## **Appendix A: Senate Bill 389 on Curriculum Alignment**

### **Senate Bill 389 (SB 389), Language on Curriculum Alignment**

The coordinating board shall establish guidelines to promote and facilitate the transfer of students between institutions of higher education within the state and shall ensure that as of the 2008-2009 academic year, in order to receive increases in state appropriations, all approved public two- and four-year public institutions shall work with the commissioner of higher education to establish agreed-upon competencies for all entry-level collegiate courses in English, mathematics, foreign language, sciences, and social sciences associated with an institution's general education core and that the coordinating board shall establish policies and procedures to ensure such courses are accepted in transfer among public institutions and treated as equivalent to similar courses at the receiving institutions. The department of elementary and secondary education shall align such competencies with the assessments found in section 160.518, RSMo, and successor assessments;

## Appendix B: Entry Level Course Competencies

Included Entry-Level Competencies:

1. Arts and Humanities.....	20
2. English and Communication.....	22
3. Foreign Languages.....	24
4. Mathematics.....	25
5. Science.....	30
6. Social Science.....	39

## Appendix B: Entry Level Course Competencies

### 1. Arts and Humanities Entry Competencies

Note: The first draft of the arts and humanities entry-level competencies contained primarily cross-disciplinary competencies. The original draft has been replaced with the arts competencies below. The original draft of the entry-level competencies will be incorporated into cross-disciplinary competencies developed across the discipline workgroups.

#### Competencies for the Fine Arts

These competencies constitute a body of what we consider the minimal level of essential knowledge and skills students should have acquired and be able to demonstrate based on experience in **one (selected)** fine arts discipline – dance, music, theatre, or visual arts, to certify that they are ready for entry-level college work in said fine arts discipline. Competencies listed below should be interpreted based on a single selected field. These entry level competencies would not apply in the event that a student graduated from a school district which did not offer or require fine arts opportunities.

#### Essential Entry Level Competencies for the Fine Arts

##### I. Product and Performance

- 1) Develop and apply skills of expression to communicate (perform/produce) through the arts by performing, creating, or producing works in visual/performance arts.
  - a) Dance: Move, perform, or read and notate dance.
  - b) Music: Sing or play an instrument, read musical notation.
  - c) Theatre: Interpret a role by reading a script or improvising.
  - d) Visual art: Create a two- or three-dimensional art piece.

##### II. Elements and Principles

- 1) Identify elements and principles for visual/performing art forms.

###### *Elements:*

- a) Dance: Energy/force, space, time.
- b) Music: Duration, intensity, pitch, timbre.
- c) Theatre: Scenario, script/text, set design.
- d) Visual art: Line, shape, color, texture, form, value, space.

###### *Principles:*

- e) Dance: Choreography, form, genre, improvisation, style, technique.
- f) Music: Composition, form, genre, harmony, rhythm, texture.
- g) Theatre: Balance, collaboration, discipline, emphasis, focus, intention, movement, rhythm, style, voice.
- h) Visual art: Balance, contrast, emphasis, rhythm/repetition, proportion, unity.
- i) Develop and apply knowledge and skills to read standard notation and/or discuss art works, musical or theatrical performances.

## **Appendix B: Entry Level Course Competencies**

### III. Artistic Perceptions

- 1) Communicate perceptions and ideas in selected art form using an arts-specific vocabulary.
- 2) Exchange information, questions, and ideas in the evaluation of works of art.

### IV. Interdisciplinary Connections

- 1) Discover and evaluate patterns and relationships within the visual arts and the performing arts.
- 2) Identify and explain ways in which the principles and subject matter of fine arts disciplines are interrelated to math, science, social studies and communication arts.

### V. Historical and Cultural Context

- 1) Recognize and explain how the fine arts are created in relation to major cultural, socio-political and historical periods.
- 2) Compare and contrast artworks from different historical time periods and/or cultures.

## Appendix B: Entry Level Course Competencies

### 2. English and Communication Entry Competencies

#### Entry-Level Competencies for First Course in Freshman Composition

The following are the *writing, thinking and expressive* skills identified and recommended by our group of community college and four-year English instructors and professors as well as high school teachers of English. The competencies constitute a body of what we consider the minimal level of knowledge and skills students *should have acquired to certify* that they are ready for entry-level college work in English.

- 1) Demonstrate critical and analytical thinking for reading, writing, and speaking purposes.
  - a) Participate in active reading and discussion of texts.
  - b) Incorporate ideas and information from readings into own writing.
  - c) Identify purpose, main idea, and supporting evidence.
  - d) Distinguish between fact and opinion.
  - e) Distinguish between general and specific information.
  - f) Summarize and paraphrase information.
  - g) Communicate effectively in groups by listening, reflecting, and responding appropriately.
- 2) Understand and use a writing process.
  - a) Have flexible strategies for generating, revising, editing, and proofreading.
  - b) Understand writing as an open, flexible process that permits a writer to use later invention and rethinking to revise work.
- 3) Compose sound sentences.
  - a) Use a variety of sentence structures correctly (simple, compound, complex, and compound-complex).
  - b) Produce sentences free of major sentence-level errors (fragments, comma splices, fused-sentences).
  - c) Communicate with few errors in grammar, usage and mechanics.
- 4) Compose sound paragraphs.
  - a) Write focused topic sentences.
  - b) Use descriptive details, examples, and facts to develop the paragraph's main idea.
  - c) Use effective patterns of organization (e.g., chronological, emphatic, spatial, etc.) and development (e.g., comparison/contrast, narration, definition, etc.).
  - d) Use transitional devices within paragraphs to achieve coherence and focus.
- 5) Produce sound discourse.
  - a) Use basic essay structure, including an introduction, body, and conclusion.
  - b) Construct thesis statements.
  - c) Organize ideas logically.

## **Appendix B: Entry Level Course Competencies**

- d) Develop an essay's main idea with adequate and specific supporting detail.
  - e) Use transitional devices within essays to achieve coherence, flow, and focus.
  - f) Maintain appropriate tone and vocabulary for target audience.
- 6) Be familiar with elementary research procedures.
- a) Acknowledge source material and be able to distinguish it from their own ideas.
  - b) Locate and retrieve relevant information using traditional and contemporary technologies.
  - c) Evaluate reliability of information and sources.
  - d) Record relevant information.
  - e) Document sources of information, using recognized documentation format.

## **Appendix B: Entry Level Course Competencies**

### **3. Foreign Languages Entry Competencies**

Foreign Languages are specifically mentioned in Senate Bill 389 as one of the areas to be addressed by the Curriculum Alignment Initiative. The initial competencies developed as entry-level competencies for entry into postsecondary foreign languages reflected the minimum level of skill (not necessarily the optimal level). Because a foreign language is not a requirement for high school graduation in Missouri, initial competencies reflected general cross-disciplinary skills (e.g. grammar skills) needed for success in a first foreign language course. For this reason, these competencies are not considered just to be important to foreign languages, but to all of the discipline areas. Therefore, these competencies will be incorporated into a cross-disciplinary section that will anchor all of the entry competencies.

## Appendix B: Entry Level Course Competencies

### 4. Mathematics Entry Competencies

Incoming college level students are expected to bring hands-on skills in computation and algebraic manipulation, as well as conceptual knowledge rooted in a deep and profound understanding of numbers and basic geometry. Incoming students are expected to know basic mathematical concepts in computation, algebra and geometry. These are described in some detail in following sections.

In addition, incoming students need to have a comfort level with mathematics so that they approach problems by investigating their nature, asking questions, and revising approaches as they reflect on them. It is as important to understand why a solution works as it is know how one reaches a solution.

Mastery of mathematics at all levels should include the following characteristics:

1. Thinking conceptually and not just procedurally about mathematics. Mathematics is a way of understanding, a thinking process, and not a collection of detached procedures to be learned and applied separately.
2. Using logical reasoning and common sense to work on problems in order to find solutions. Successful students can explain their processes and can check their solutions to see whether their findings make sense.
3. Using experimental thinking and a willingness to investigate the steps used to reach a solution, and recognizing that there are often multiple approaches to solving a problem.
4. Taking risks and accepting that a first or second attempt may result in a wrong answer, but that each attempt is an opportunity to try new approaches toward solving the problem.
5. Understanding that formulas and algorithms in computation, while important and crucial, are only part of the analytical process.

Successful incoming students understand that mathematical problem solving involves logical reasoning. Technology is important and relevant in understanding mathematics, but students should be aware of the limitations of technology and recognize that calculators and computers are tools to assist but not replace the thinking process. Students should understand the basic mathematical terminology and use it appropriately. Students must pay attention to the wording of problems and move with ease between the symbolic representation of a problem and its verbal representation. Students are expected to write with clarity and cohesiveness.

Successful students will also present an orientation toward learning that presents itself as a willingness to work for significant periods of time on a single problem. Persistence is invaluable in the quest for a solution to a problem. Sustained inquiry - engaging in the process for more than a short period of time - is an important part of the process when solving a problem. Oftentimes this process will help foster a deeper understanding, build confidence, and inspire learning.

Successful students demonstrate active participation in the process of learning mathematics by:

1. being willing to experiment with problems that have multiple solution methods;

## Appendix B: Entry Level Course Competencies

2. demonstrating an understanding of the mathematical ideas behind the steps of a solution, as well as the solution;
3. showing an understanding of how to modify patterns to obtain different results;
4. showing an understanding of how to modify strategies to obtain different results; and
5. recognizing when a proposed solution does not work, analyzing why, and using the analysis to seek a valid solution.
6. demonstrating an ability to solve multi-step problems with a variety of strategies.

In the sections that follow, entry level competencies have been detailed in areas of numerical computation, algebra and geometry. Examples demonstrating the levels of understanding needed will become a part of this document when they are completed. An asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.

### I. Numerical Computation

Conceptual understanding of these basic computations, although not explicitly stated (in the examples), is assumed. While technology is useful in helping students explore and enhance their understanding of basic computations, their ability to conceptually understand and perform basic computations without the aid of technology increases the likelihood of success in college level mathematics courses.

Successful students must be able to:

1. Apply mathematical operations to all real numbers in any form (including integers, rational numbers, radicals, and decimals), following the correct order of operations.
2. Calculate the sum, difference, product, and quotient of complex numbers and express the result in standard form.
3. Recognize and generate equivalent forms of fractions, decimals, and percents.
4. Compare and order real numbers, including finding their approximate locations on the number line.
5. Apply laws of rational exponents to real number bases.
6. Recognize and generate equivalent representations (i.e., scientific notation) for very large and very small numbers, and perform mathematical operations on such numerical representations. Move flexibly between scientific notation and expanded form.
7. Compute quantities involving absolute value.
8. Apply the properties of real numbers (including commutative, associative, identity, inverse, and distributive properties).
9. Perform numerical computations involving units of measurement, standard and metric.
10. Communicate accurately using mathematical terminology (e.g., addend, sum, difference, factor, product, divisor, dividend, quotient, remainder, numerator, denominator, exponent, base, radicand, and index).
11. Accurately record symbolic manipulations used in numerical computations, as well as the solutions of numerical computations (e.g., equal signs, inequality symbols, grouping symbols, exponents, subscripts, and solution sets).

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12. Communicate accurately using set notation/terminology (e.g., set-builder notation, element of, well-defined, finite/infinite, subset, proper subset,  $\emptyset$ , cardinal number, equal, equivalent, and interval notation).
13. Estimate numerical computations and judge the reasonableness of the results of these computations.
14. Apply set operations and relations to sets (i.e., union, intersection, complement, and subsets).
15. Represent sets using graphic organizers, including Venn diagrams.

### II. Algebra

Successful students are expected to bring a combination of hands-on skill and conceptual understanding of algebra.

- 1) Successful students know and apply basic algebraic concepts. They:
  - a) Add, subtract, multiply, and divide polynomials, rational expressions, and radical expressions.
  - b) Divide polynomials.
  - c) Apply properties of exponents and radicals.
  - d) Factor polynomials (e.g., greatest common factor, grouping, trinomials, difference of squares, sum and difference of cubes).
  - e) Simplify polynomials, rational expressions, and radical expressions.
- 2) Successful students use various appropriate techniques to solve basic equations and inequalities. They:
  - a) Solve linear equations and absolute value equations.
  - b) Solve linear inequalities and absolute value inequalities.
  - c) Solve systems of linear equations and inequalities with two variables, using algebraic or graphical methods.
  - d) Solve quadratic equations by factoring, completing the square, and using the quadratic formula.
  - e) Solve rational equations.
  - f) Solve radical equations.
  - g) \*Solve nonlinear inequalities. (Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)
- 3) Successful students distinguish among expressions, formulas, equations, functions and relations. They know when it is possible to simplify, solve, substitute or evaluate appropriately. In addition, they:
  - a) Correctly apply the algebraic language and notation for functions including domain and range.
  - b) Compose and decompose functions and find inverses of basic functions.
  - c) Identify and compare a variety of functions (e.g., constant, linear, quadratic, cubic, absolute value, exponential and logarithmic functions) and apply the properties of each.
- 4) Successful students understand the relationship between equations and graphs. They:
  - a) Recognize basic forms of the equation of a line and graph the line without technology.

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- b) Recognize the basic shape of the graph of a quadratic function; find the vertex; calculate and recognize the relationships among the solutions of the related quadratic equation, zeroes of the function and intercepts of the graph.
  - c) Recognize and sketch the basic shapes of the graphs of the following functions: constant, linear, quadratic, cubic, square root, cube root, absolute value, exponential and logarithmic (without technology).
  - d) Describe the effects of parameter changes on functions.
  - e) Describe and sketch the effects of transformations on the graphs of functions.
  - f) Represent data in a variety of ways (e.g. scatter plot, graph, and table) and select the most appropriate method.
- 5) Successful students understand algebra well enough to apply it procedurally and conceptually to a range of common problems. Successful students demonstrate the ability to work with formulas and symbols algebraically. They:
- a) Recognize which type of function or expression best fits the context of a basic application.
  - b) Use multiple representations to solve problems (e.g. analytic, numerical, and geometric).
  - c) Represent algebraically and solve problems that include linear, quadratic, exponential, and logarithmic relationships.
  - d) Use mathematics to solve applications from various fields (e.g. rates of change, compound interest, chemical mixture, population growth, and business).
  - e) Solve literal equations and formulas for a specified variable.
  - f) Communicate accurately using the vocabulary and symbols of algebra.
- 6) Successful students understand the appropriate use, as well as the limitation, of appropriate technology. They:
- a) Plot relevant graphs.
  - b) Use appropriate problem solving methods.
  - c) Recognize when the results produced are unreasonable or represent misinformation.

### III. Geometry

Successful students must possess a basic body of knowledge including but not limited to the Pythagorean Theorem, formulas for perimeter, area, volume, and surface area. Successful students demonstrate an understanding of and can explain the mathematical ideas behind the steps of a solution as well as the solution. Successful students recognize when a proposed strategy does not work, analyze why, and use the analysis to seek a valid solution. Successful students understand the appropriate use as well as the limitations of technology.

Successful students must be able to:

- 1) Apply properties of similarity and congruence.
- 2) Recognize and apply properties and theorems of parallel lines cut by a transversal.
- 3) Recognize and apply properties and theorems related to circles.

## Appendix B: Entry Level Course Competencies

- 4) Determine the area and perimeter of plane figures and use the concept of conservation of area.
- 5) Apply the basic formulas for volume and surface area of solids.
- 6) Use deductive reasoning to develop and write simple geometric proofs.
- 7) Use inductive reasoning in problem situations to build a basis for the use of both proof and counter-examples.
- 8) Apply properties of similarity, particularly related to triangles, to find unknown geometric measurements including angle measurements, lengths of sides, areas, and volumes.
- 9) Recognize and represent solids and surfaces in three-dimensional space from a two-dimensional representation (e.g. recognize the features of a three-dimensional object: faces, edges, vertices, and shape).
- 10) Use coordinate geometry to make connections between algebra and geometry.
  - a) Describe lines in the coordinate plane using slope-intercept and point-slope form.
  - b) Use slopes to describe the steepness and direction of lines in the coordinate plane and to determine if lines are parallel, perpendicular, or neither.
  - c) Relate geometric and algebraic representations of lines, segments, simple curves, circles, and \*conic sections. (Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)
  - d) Derive and use the formula for distance between two points.
- 11) Apply the definitions of sine, cosine, and tangent using right triangle trigonometry and \*similarity relations. (Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)
- 12) \*Use trigonometry for examples of algebraic/geometric relationship, including the Law of Sines/Cosines and Trigonometric Identities. (Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)
- 13) Describe and represent transformations and symmetries of plane figures.
- 14) Make connections between analytic, numerical, and geometric methods to solve problems.

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### 4. Science Entry Competencies

#### A. Natural Sciences General Entry Competencies

##### I. Quantitative skills

Students are more likely to succeed in a college science course if they enter with adequate preparation in mathematics. Students are strongly encouraged to meet the entry-level standards described for college math before enrolling in an introductory college-level science course.

##### II. Scientific Inquiry

- 1) Science understanding is developed through the use of scientific investigation, reasoning, and critical thinking.
  - a) Scientific inquiry requires the ability to gather and analyze information and ideas.
    - i) Apply sound library research skills (e.g., article searches, online databases).
    - ii) Evaluate a given source for its scientific credibility (e.g. web sites, product advertisements, use of personal testimony in place of scientific evidence, etc.).
    - iii) Read with comprehension and be able to summarize and draw conclusions from written material in basic science.
    - iv) Interpret data using various representations (e.g., graphs, tables, charts, and plots).
  - b) Scientific inquiry includes the ability to formulate a testable question and explanation.
    - i) Compose testable questions and hypotheses.
    - ii) Differentiate between a hypothesis and a scientific theory (e.g. a hypothesis is a tentative but testable explanation subject to experimentation; a scientific theory has been repeatedly confirmed through observation and experimentation).
    - iii) Design and conduct a valid experiment (formulate and clarify the method; identify the controls; collect, organize, display and interpret the data; make revisions of hypotheses, methods and explanations; present the results; and seek critiques from others).
    - iv) Recognize that it is not always possible, for practical or ethical reasons, to control some conditions (e.g., when sampling or testing humans, when observing animal behavior in nature).
    - v) Acknowledge there is no fixed procedure called “the scientific method,” but that some investigations involve systematic observations, models (e.g. astronomy), carefully collected and relevant evidence, and logical reasoning in developing hypotheses and other explanations.
  - c) Scientific inquiry includes the ability to select and utilize appropriate investigative methods and tools to gather and interpret relevant data.
    - i) Make qualitative and quantitative observations using the appropriate senses, tools and equipment to gather data (e.g., microscopes, thermometers, computers, balances, metric rulers, graduated cylinders).

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- ii) Measure length to the nearest millimeter, mass to the nearest gram, volume to the nearest milliliter, temperature to the nearest degree Celsius, time to the nearest second.
  - iii) Understand the metric system and perform simple conversions within the metric system and between the metric and US systems. Use and interpret values written in scientific notation (exponents).
  - iv) Judge whether measurements and computations of quantities are reasonable.
  - v) Calculate descriptive statistics (e.g. mean, median, mode, range, ratio, percentage).
  - vi) Depict data using various representations (e.g., graphs, tables, charts, and plots).
  - d) Scientific inquiry includes the evaluation of scientific principles and explanations (laws, theories, models) as well as the methods used to support them.
    - i) Analyze whether evidence (data) and scientific principles support proposed explanations.
    - ii) Communicate and defend a scientific argument.
- 2) A scientific theory is an explanation of some phenomenon of the natural world, based on a body of facts that have been repeatedly confirmed through observation and experiment.
- a) Scientific explanations of phenomena change over time as a result of new evidence (e.g., cell theory, theories of spontaneous generation, theories of extinction, evolutionary theory, genetic theory of inheritance).
    - i) Differentiate between scientific theories and laws. In science, a law is a description of a specific relationship among observable phenomena (e.g., the Gas Laws), but does not explain the observed relationship. A theory explains a set of laws and related phenomena (e.g. the theory of plate tectonics explains diverse observations regarding the distributions of volcanoes, earthquakes, and geological formations, as well as the relationships among organisms that inhabit different continents). Theories lead to new predictions and tests of those predictions.
    - ii) Explain why accurate recordkeeping, openness, and replication are essential for maintaining an investigator's credibility with other scientists and society.
    - iii) Recognize that acceptable validation of scientific theories includes reproduction of results and clearly reported methods and procedures that increase the opportunity for further research.
  - b) Knowledge is cumulative and learning requires retention of knowledge and application to further topics; knowledge gained in one science is applicable to other sciences.
- 3) Science and technology affect, and are affected by, society.
- a) Science and society interact to determine the direction of scientific and technological progress.
    - i) Understand that social and economic forces strongly influence which science and technology programs are pursued and supported with investment of resources and manpower.
    - ii) Recognize the role of science in both personal and public decision-making.

## Appendix B: Entry Level Course Competencies

- iii) Be able to evaluate scientific issues that impact your daily life.
- b) Science advances through the development and application of new technology and new ideas.
  - i) Realize that technological challenges may create a demand for new science technology.
  - ii) Understand that new technologies make it possible for scientists to extend research and advance knowledge.

### B. Life Sciences Entry Competencies

These competencies define the knowledge and skills needed for students to successfully enter and complete college-level work in biology. Sources used in preparation of this document include 1) Updated draft of Course Level Expectations in Science prepared by Missouri DESE 2) Quality in Undergraduate Education (Georgia State University Proposed Standards for Non-Majors Biology Course) 3) Natural Sciences, A Project of AAU and Pew Charitable Trusts 4) MoDEC entry-level skills recommendations in reading, writing and math and 5) ACT College Readiness Standards.

The purpose of high school biology is to help students develop a foundation in biology that focuses on major themes in the discipline, and to help them become scientifically literate citizens. For example, students need to be familiar with health-related issues, biotechnology and agriculture issues, environmental concerns, and the human impact on natural systems. Of equal importance is that students understand the nature of scientific endeavors. The recommendations in this document highlight major themes and concepts in the discipline. Towards this end we encourage emphasis be placed on why biological processes (e.g. mitosis, photosynthesis, respiration, etc.) are important and less emphasis be placed on the details of these processes. We also encourage a shift in the emphasis from cell and molecular biology to a more balanced approach that includes organismal, evolutionary and ecological biology.

#### I. Properties and Principles of Matter and Energy

- 1) Matter is composed of atoms that enter into chemical reactions to form molecules.
  - a) Cells carry out chemical transformations for the synthesis or breakdown of organic compounds.
    - i) Identify reactants and products in a chemical equation.
    - ii) Understand the importance of the water molecule and the carbon atom to living organisms.
    - iii) Identify the major organic compounds (proteins, nucleic acids, lipids, carbohydrates) that are found in living systems and identify their dietary sources.
  - b) Enzymes are chemicals that facilitate the breakdown and synthesis of molecules in living organisms.
- 2) Energy for most living organisms is derived ultimately from the sun.
  - a) Energy from the sun is converted to ATP within living organisms.
    - i) Understand that energy is stored or released in the breakdown and/or synthesis of organic compounds.

## Appendix B: Entry Level Course Competencies

- ii) Recognize that as energy is transformed from one form to another (e.g., metabolic pathways, food webs), the amount of usable energy decreases with each transformation.
- b) ATP is used by all organisms as a source of energy to do work in a cell.

### II. Characteristics of Living Organisms

- 1) Cells are the fundamental units of structure and function of all living things.
  - a) All cells share basic features (e.g., a plasma membrane).
    - i) Explain the characteristics that separate living cells from non-living matter (e.g. reproduction, metabolism).
    - ii) Recognize that all organisms are composed of cells, the fundamental units of structure and function; organisms may be unicellular or multicellular.
    - iii) Describe the structure of the plasma membrane and the function of the following cell components: plasma membrane, cell wall, cytoplasm, nucleus, chloroplast, mitochondrion, and ribosome.
    - iv) Predict the movement of molecules across the plasma membrane (i.e. diffusion, osmosis, active transport) as cells exchange materials with their environment or with other cells.
  - b) Different types of cells have different specializations.
    - i) State the similarities and differences between the cells of prokaryotes and eukaryotes, and plants and animals.
    - ii) Recognize that cells both increase in number and differentiate, becoming specialized in structure and function, during and after embryonic development.
- 2) Living organisms transform energy through the processes of photosynthesis and cellular respiration.
  - a) Photosynthesis and cellular respiration are complementary processes necessary for the survival of most organisms on Earth.
    - i) Compare and contrast the function of mitochondria and chloroplasts (know that mitochondria are responsible for converting energy from food to usable ATP and that chloroplasts harvest energy and carbon from the sun and air, respectively).
    - ii) Compare and contrast the products and reactants for the overall processes of photosynthesis and cellular respiration, stressing the importance of and the interrelationship between these processes (e.g., recycling of oxygen and carbon dioxide). Do not assess intermediate reactions (i.e. no light-dependent and light-independent reactions, Krebs cycle, etc). Focus on the beginning- and end-products of photosynthesis and cellular respiration.
  - b) Plants perform both photosynthesis and cellular respiration.
- 3) All living cells have genetic material (DNA) that carries hereditary information.
  - a) The organization of DNA into chromosomes is key to both replication of DNA and its distribution to new cells or organisms.
    - i) Differentiate between the terms genome, chromosome, DNA, and gene.
    - ii) Describe the chemical and structural properties of DNA (e.g., DNA is a double helix comprised of four different nucleotides).

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- iii) Explain how base-pairing rules allow cells to replicate DNA molecules.
  - iv) Recognize that an error in the DNA molecule (mutation) can be transferred during replication.
  - v) Identify possible external causes (e.g., heat, radiation, certain chemicals) and effects of DNA mutations (e.g., altered proteins which may affect chemical reactions and structural development).
  - b) Protein structure and function are coded by the DNA molecule.
    - i) Recognize that DNA codes for proteins, which are expressed as the heritable characteristics of an organism.
    - ii) Recognize that information flows from DNA to messenger RNA to a resulting protein. (Understanding this concept is more important than the details of transcription and translation.)
    - iii) Identify the diverse roles proteins play on the cellular level (enzymes, structure, communication, transport, etc.).
    - iv) Explain how most cells in an organism have the same DNA, genes and chromosomes, but are functionally different because they make different proteins (e.g., pancreatic islet cells make insulin while lymphocytes make antibody).
  - c) Biotechnology and genetic engineering (e. g., recombinant DNA technology) can be used to analyze or manipulate gene structure and function.
- 4) The reproductive process provides a genetic basis for the transfer of biological characteristics from one generation to the next.
- a) Reproduction can occur asexually or sexually.
    - i) Distinguish between asexual and sexual reproduction.
    - ii) Explain the importance of sexual reproduction in the generation of variation among individuals within a population.
  - b) Chromosomes carry hereditary information from one cell to daughter cells and from parent to offspring during reproduction.
    - i) Recognize that the reproduction of body cells (and asexual reproduction in single-celled organisms) occurs through the process of mitosis, which results in daughter cells that are genetically identical to the parent cell. Students do not need to name the stages of mitosis or meiosis.
    - ii) Recognize that through the process of meiosis, the number of chromosomes in gametes is reduced by half. (Emphasize the similarities and differences between mitosis and meiosis, rather than details of the stages involved.).
    - iii) Explain how fertilization restores the diploid number of chromosomes.
  - c) The pattern of inheritance for many traits can be predicted using the principles of Mendelian genetics.
    - i) Recognize that alleles are different versions of a single gene.
    - ii) Explain the chromosomal differences between human males and females (XY and XX, respectively).
    - iii) Predict the probability of the occurrence of specific traits, including sex-linked traits, in an offspring by using a monohybrid cross.
- 5) Structure is related to function in multicellular organisms.

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- a) The structure of multicellular organisms is best understood as a hierarchy of structural levels from cells, to tissues, to organs, to organ systems, that interact to maintain homeostasis.
    - i) Identify the major component parts and explain the function of the primary organ systems of humans, including respiratory, circulatory, reproductive, and digestive systems.
    - ii) Provide an example of how different components of the human body interact to maintain homeostasis.
  - b) Structures in plants and animals support the function of energy transformation.
    - i) Relate the operation of body systems to the processes of cellular respiration, nutrient acquisition, and waste removal.
    - ii) Relate the major organs of plants (e.g. roots, stems, leaves) to their roles in photosynthesis.
- 6) A fundamental unity underlies the diversity of all living organisms.
- a) Biological classifications are based on how organisms are related.
    - i) Recognize that the probability of relatedness can be determined by comparing DNA sequences.
    - ii) Explain how similarities used to group taxa might reflect evolutionary relationships (e.g., similarities in DNA and protein structures, morphology, etc.) with the focus on domains and kingdoms.
  - b) The classification of organisms is constantly being revised and extended as scientists gather more information.

### III. Evolution and Ecology of Organisms

- 1) The theory of evolution provides a fundamental framework for understanding the history and diversity of life on Earth and is the central unifying theme of biology.
  - a) Evidence for the nature and rates of evolution can be found in anatomical and molecular characteristics of organisms.
    - i) Explain the evidence that supports the theory of biological evolution (e.g., fossil records, homologous and vestigial structures, similarities among organisms in DNA/proteins and morphological traits).
    - ii) Identify how evolution is happening today (e.g., antibiotic resistant bacteria) and its impact on humans.
    - iii) Understand that evolution takes time. Evolution can happen in a few generations, but major change, such as speciation, often requires long periods of time.
  - b) Natural selection is one of the primary mechanisms of evolution.
    - i) Define evolution as a change in the proportions of alleles in a population. (Note: students do not need to know about Hardy-Weinberg equilibrium.)
    - ii) Explain that evolution is the outcome of natural selection: 1) Organisms pass their genetic traits to their offspring. 2) The offspring are not identical to each other, but carry genetic variation as a result of both mutations and new combinations of existing alleles. 3) Not all members of a generation will reproduce equivalently. 4) Because the genetic makeup of the next generation will be derived from those individuals that are able to pass on their alleles, the proportion of individuals with advantageous

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- iii) Although natural selection can cause a new trait to become widespread, natural selection does not direct the mutations that cause the initial appearance of a trait in the population.
  - iv) Identify examples of adaptations that have resulted from variations favored by natural selection (e.g., long-eared jack rabbits, camouflaged insects) and describe how that variation provided individuals an advantage for survival.
  - v) Explain how environmental factors (e.g., habitat loss, climate change, pollution, introduction of nonnative species) can be agents of natural selection.
  - c) Extinction occurs as a result of both natural processes and human-induced changes in the environment.
    - i) Explain how genetic homogeneity may cause a population to be more susceptible to extinction (e.g., succumbing to a disease for which there is no natural resistance).
    - ii) Explain why species that are adapted to a particular environment may go extinct if the environment changes.
- 2) Organisms interact with one another and with their environment.
- a) Interactions among populations within a community affect the structure and balance of an ecosystem.
    - i) Understand that biologists view the natural world in a hierarchical organization from individuals, populations, communities and ecosystems.
    - ii) Define a species (e.g. the ability to mate and produce fertile offspring).
    - iii) Observe a local ecosystem (local pond, aquarium, etc.) and explain the nature of interactions between organisms in predator/prey relationships and different symbiotic relationships (i.e., mutualism, commensalism, parasitism).
    - iv) Understand the concept of the ecological niche of an organism (the interactions and interdependence of the organism with other organisms and the environment).
  - b) Living organisms have the capacity to produce populations of infinite size, but environments and resources are finite.
    - i) Identify and explain the limiting factors (biotic and abiotic) that may affect the carrying capacity of a population within an ecosystem.
    - ii) Explain how populations within an ecosystem may change in number and/or structure in response to changes in biotic and/or abiotic factors.
  - c) All organisms, including humans, and their activities cause changes in their environment that affect the ecosystem and the diversity of species within that ecosystem.
    - i) Explain how natural or human caused changes (biological, chemical and/or physical) in one ecosystem may affect other ecosystems due to natural mechanisms (e.g., global wind patterns, water cycle, ocean currents).
    - ii) Explain the impact (beneficial or harmful) that a natural or human caused environmental event (e.g., forest fire, flood, volcanic eruption, avalanche, acid rain, global warming, pollution, deforestation, introduction of an exotic species) may have on individuals, populations, species, communities and/or the global environment.
- 3) Matter recycles within and energy flows through the ecosystem.
- a) Matter (e.g., carbon, nitrogen, oxygen) is recycled within an ecosystem.

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- i) Recognize that living organisms play a critical role in recycling of matter.
- ii) Understand that human activities can alter the natural recycling of matter (e.g., global warming).
- b) As energy flows through the ecosystem, living organisms capture a portion of that energy and transform it to a form they can use.
  - i) Illustrate and describe the flow of energy within a food web and an energy pyramid.
  - ii) Predict how the use and flow of energy may be altered due to changes in a food web.

### C. Physical Sciences Entry Competencies

The physical sciences include Astronomy, Chemistry, Geology, and Physics. *College Knowledge: What It Really Takes for Students to Succeed and What We Can Do to Get Them Ready* was used as a resource for the competencies related to these courses. *College Knowledge* is written by David T. Conley and published by the Center for Education Policy Research in Eugene, Oregon. The competencies also embrace the National Science Standards as expressed in the K-12 standards as adopted by DESE.

A proficient level on Missouri high school science end-of-course exams is desired for all high school graduates; however, these competencies are specific for the introductory classes. The most important skill for success in physical science courses is mathematical proficiency. As mentioned in other places in this report, habits of mind are also very important to achieving that success. Further, students who complete high school chemistry and physics courses should be better prepared to be successful in college level physical science courses. While the competencies below are split into sections according to sub-disciplines within the physical sciences, there is large cross-over between these sub-disciplines such that competencies in one sub-discipline may apply to introductory courses in the others.

#### I. Geology (Earth Science)

Students should:

- 1) Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
- 2) Know that the earth is a body in space whose environmental system consists of the atmosphere, cryosphere, hydrosphere and biosphere; and that this system depends largely on the sun for light and heat.
- 3) Understand that the current environment (e.g., geography and climate) has changed dramatically in the past and will continue to do so.
- 4) Understand that relationships exist among the solid earth (geology and soil science), the water (hydrology and oceanography) and the atmosphere (meteorology and atmospheric).
- 5) Be aware of the major events in the geologic history of the Earth.

#### II. Astronomy

Students should:

- 1) Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
- 2) Be familiar with the nature of the solar system and the universe.

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- 3) Be familiar with the basic motions of bodies in space.
- 4) Have an appreciation of the immensity of the universe.

### III. Chemistry

Students should:

- 1) Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
- 2) Understand that atoms, molecules and ions have a set of physical and chemical properties that control their behaviors in a range of states.
- 3) Know that states of matter depend on molecular arrangement and freedom of motion.
- 4) Have a basic familiarity with the Periodic Table.
- 5) Know the structure of an atom.
- 6) Understand that molecules are composed of atoms in unique and consistent arrangements.
- 7) Know that substances react chemically in characteristic ways with other substances to form new substances (compounds) with different characteristics and properties.

### IV. Physics

Students should:

- 1) Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
- 2) Understand the relationship between energy, heat and temperature.
- 3) Understand conservation of mass and energy.
- 4) Understand the difference between position, velocity and acceleration.
- 5) Understand Newton's laws as a classical description of motion.
- 6) Know the characteristic properties of waves.
- 7) Understand every object exerts gravitational force on every other object.
- 8) Understand general concepts related to electrical and magnetic forces.

## Appendix B: Entry Level Course Competencies

### 5. Social Sciences Entry Competencies

The Social Science Workgroup of the Missouri Department of Higher Education wish to present the following entry-level competencies in an effort to establish what they feel are the essential standards for successful entry into postsecondary social science coursework. The following competencies outline both general and discipline-specific knowledge. These standards are based upon the earlier work of the Association of American Universities and the PEW Charitable Trusts (*Social Sciences, A report for Standards for Success*, pp: 55-65. [www.s4s.org](http://www.s4s.org)).

#### I. General Knowledge and Skills

Successful students have a basic understanding of the social sciences (anthropology, history, economics, geography, political science, sociology). They:

- 1) Distinguish between the different characteristics that define the disciplines within the social sciences.
- 2) Are aware of current world events, issues, and problems and know how concepts and theories in the social sciences can be applied to understand them.
- 3) Perceive events and circumstances from the vantage point of others, including those in racial and cultural groups different from their own; from the other gender, from other ages; and from those who live under other political and economic systems.
- 4) Are able to identify and analyze problems appropriate to the social science discipline being studied.
- 5) Are able to distinguish between, read, and comprehend primary and secondary documents.

#### II. History

Successful students know significant periods and events in United States history. They understand important events, social movements and political processes that have shaped U.S. and World history, and are aware of the major historical figures that influenced history. These include but are not limited to:

- 1) The evolution and distinctive characteristics of major early Asian, African, and American pre-Columbian societies and cultures.
- 2) The connections among civilizations from earliest times, and the gradual growth of global interaction among the world's peoples, speeded and altered by changing means of transport and communication.
- 3) Comparative history of selected themes, to demonstrate commonalities and differences not only between European and other societies, but among European and non-European societies themselves.
- 4) Varying patterns of resistance to, or acceptance and adaptation of, industrialization and its accompanying effects, in representative European and non-European societies.
- 5) The adaptation of both indigenous and foreign political ideas, and practices in various societies. Borrowers of other's political ideas, exporters of political ideas.

## **Appendix B: Entry Level Course Competencies**

- 6) The interplay of geography and local culture in the responses of major societies to outside forces of all kinds.
- 7) The evolution of American political democracy, its ideas, institutions, and practices from colonial days to the present; the Revolution, the Constitution, slavery, the Civil War, emancipation, and civil rights.
- 8) The development of the American economy; geographic and other forces at work; the role of the frontier and agriculture; the impact of technological sources and urbanization on land and resources, on society, politics, and culture. The role and emancipation of American labor.
- 9) The gathering of people and cultures from many places, and the several religious traditions, that have contributed to the American heritage and to contemporary American society.
- 10) The changing role of the United States in the outside world; relations between domestic affairs and foreign policy; American interactions with other nations and regions, historically and in recent times. The United States as a colonial power and in two world wars. The Cold War and global economic relations.
- 11) The distinctively American tensions between liberty and equality, liberty and order, region and nation, individualism and the common welfare, and between cultural diversity and civic unity.
- 12) The major successes and failures of the United States, in crises at home and abroad. What has “worked” and what has not, and why.

### **III. Political Science (Civics)**

- 1) Successful students have a basic understanding of types of governments. They:
  - a) Understand the nature and source of various types of political authority (e.g., the differences between democracy and oligarchy).
- 2) Successful students have a basic understanding of the U.S. political system and its history. They:
  - a) Know basic facts about the U.S. political system and constitutional government (e.g., federalism; checks and balances; and legislative, executive and judiciary branches of power).
  - b) Understand the content and context of documents that established the U.S., especially The Declaration of Independence and the U.S. Constitution.
  - c) Understand the content and context of documents important for the protection of individual rights in the U.S., especially the U.S. Constitution and the Bill of Rights.
  - d) Know the methods citizens can use to participate in the political process at local, state and national levels, and how political participation can influence public policy.

### **IV. Geography**

Below are entry-level competencies in geography. These competencies encompass general concepts in Geography, Physical Geography and Human Geography. It is not our expectation that students would be fully conversant in these concepts when entering college, but that they

## Appendix B: Entry Level Course Competencies

would have been exposed to many of them. Traditionally, place name identification has been conceived of as the main focus of geography, but much more important are the major geographical concepts and cultural understanding of the diversity of the places in the world. Geographical approaches link many different branches of the social sciences, as well as the physical sciences. As such students who have exposure to these concepts will be more likely to succeed in not only college-level geography courses, but they will be in a stronger position to succeed in other courses, such as: introduction to physical science, surveys of American and world history, introduction to sociology and anthropology courses, and beginning government courses. Students meeting entry-level expectations in geography will be able to:

- 1) Use maps to determine and define major geographical units, such as: regions, continents, countries, and major cities.
- 2) Identify and interpret different types of maps, such as: topographic (raised relief and contour), cartograms, proportional symbol, and choropleth maps
- 3) Identify and define places by understanding ethnicity; language and language systems; and patterns of religion
- 4) Define and distinguish between concepts of relative distance and absolute distance, relative direction and absolute direction, relative location and absolute location
- 5) Understand fundamental population models, such as the demographic transition model, and associated terminology, including but not limited to, total fertility rate, rate of natural increase, etc.
- 6) Describe different patterns of migration, the different types of migration, and the causes of migration
- 7) Read and interpret data in atlases, e.g. percentage of population who are farmers, population density, percentage of population that live in urban areas
- 8) Identify the continents of the world and their major topographic qualities, i.e. mountainous, high plateau, etc and demonstrate an understanding of how these qualities influence human settlement patterns
- 9) Distinguish between weather and climate and demonstrate an understanding of how climate influences human settlement patterns
- 10) Identify areas of the world by their dominant vegetation characteristics, i.e. savanna, tropics and demonstrate an understanding of how this influences human settlement patterns
- 11) Identify major bodies of water, i.e. oceans, seas, and major rivers and distinguish between fresh and salt water and demonstrate an understanding of how proximity to fresh water continues to influence human settlement patterns.

## Appendix C: Draft Cross-Disciplinary Competencies

Included Draft Cross-Disciplinary Competencies:

1. Habits of Mind..... 43
2. Reading and Writing..... 47
3. Technology and Information Literacy..... 49

## Appendix C: Draft Cross-Disciplinary Competencies

### 1. Cross-Disciplinary Entry Level Standards for Habits of Mind

#### I. Intellectual curiosity

- 1) Engage in intellectual inquiry and dialogue.
  - a) Identify what is known, not known, and what one wants to know in a problem.
  - b) Conduct investigations and observations.
  - c) Cite examples or illustrations in which a clear-cut answer cannot be reached.
- 2) Revise personal views when valid evidence.
  - a) Articulate own point of view and provide valid evidence to support findings.
  - b) Demonstrate willingness to take intellectual risks by investigating novel, controversial, or unpopular opinions or conclusions.
  - c) Examine alternative points of view, taking different roles to defend, oppose, and remain neutral on issues.
  - d) Recognize conflicting information or unexplained phenomena.

#### II. Reasoning

- 1) Consider arguments and conclusions of self and others.
  - a) Know and apply logic to analyze patterns and descriptions and to evaluate conclusions.
  - b) Cite valid examples or illustrations that support the conclusions.
  - c) Question whether the claims and conclusions of self and others are supported by evidence.
  - d) Identify counter examples to disprove a conclusion.
- 2) Construct reasoned arguments to explain phenomena, validate conjectures, or support positions.
  - a) Participate in a debate that is based on facts and has a logical structure.
  - b) Construct a visual presentation, including hypothesis, data, results, and conclusion.
  - c) Write a paper that addresses counter-arguments to advocated positions.
  - d) Recognize and apply techniques of statistical or probabilistic analysis to judge reliability of information.
  - e) Organize an argument separating fact from opinion.
- 3) Gather empirical evidence to support or modify claims based on the results of an inquiry.
  - a) Use different kinds of data (e.g., case studies, statistics, surveys, documents) to support an argument.
  - b) Evaluate evidence in terms of quality and quantity.
  - c) Describe limitations of data collection methods.
  - d) Refine claims and adjusts a position in response to inquiry.
  - e) Review and check strategies and calculations, using alternative approaches when possible.

#### III. Problem Solving

- 1) Analyze a situation to identify a problem to be solved.

## Appendix C: Draft Cross-Disciplinary Competencies

- a) Represent and/or restate the problem in one or more ways (e.g., graph, table, equation), showing recognition of important details and significant parameters.
  - b) Break complex problems into component parts that can be analyzed and solved separately.
  - c) Apply previously learned knowledge to new situations.
  - d) Analyze a media report, identify any misuse of statistics, and suggest ways to more accurately depict this information.
- 2) Develop and apply multiple strategies to solving a problem.
    - a) Use a range of standard methods, devices, techniques, and strategies to gather and analyze information.
    - b) Use knowledge gained from other subject areas to solve a given problem.
- 3) Collect evidence and data systematically and directly relate to solving a problem.
    - a) Use general and specialized reference works and databases to locate sources.
    - b) Collect evidence and data directly related to solving the problem and discard irrelevant information.
    - c) Produce charts, graphs, and diagrams accurately, including scale, labeling, units, and organization.
    - d) Present the collected data visually, describe the data collection procedure, and defend choosing that procedure over other possibilities.

### IV. Academic behaviors

- 1) Accept personal responsibility for education as an active learner (e.g.).
  - a) Attends class regularly and is on time.
  - b) Notifies teacher prior to absences when possible and uses legitimate and reasonable excuses.
  - c) Responsible for all assignments on-time and what is covered in class – both attended and missed classes.
  - d) Attentive in class and participates in class discussion.
  - e) Completes all assignments on time and in appropriate format, clean and neat.
  - f) Prepares for texts and exams.
  - g) Demonstrates positive affirmation about self learning.
- 2) Self-monitor learning needs and seek assistance when needed.
  - a) Ask questions to check for understanding or to clarify information.
  - b) Use a systematic method for recording, storing, and organizing materials and resources; avoid haphazard or messy accumulation of information.
- 3) Use study habits necessary to manage academic pursuits and requirements.
  - a) Manage time effectively to complete tasks on time.
  - b) Demonstrate accurate note-taking.
  - c) Use the appropriate level of detail necessary to complete an assigned task.
  - d) Balance academic and non-academic activities to successfully participate in both.

## Appendix C: Draft Cross-Disciplinary Competencies

- 4) Strive for accuracy and precision.
  - a) Collect and report experimental data carefully and correctly.
  - b) Produce charts, graphs, and diagrams accurately, including scale, labeling, units, and organization.
  - c) Eliminate irrelevant information from an assignment.
- 5) Persevere to complete and master tasks.
  - a) Persevere until a task is completed by working even when faced with uncertainty or open-ended assignments.
  - b) Seek assistance when needed to complete the assignment.
  - c) Recognize when a task is completed.

### V. Work habits

- 1) Work independently or collaboratively as appropriate for the given situation.
  - a) Plan a project, establish its parameters, and complete it with minimal supervision, seeking assistance accordingly.
  - b) Follow directions or procedures independently.
  - c) Complete assignments outside the classroom setting in a timely manner.
- 2) Work as a contributing team member.
  - a) Work collaboratively with students from various cultural and ethnic backgrounds.
  - b) Distinguish between situations where collaborative work is appropriate and where it is not.
  - c) Work in small groups to investigate a problem or conduct an experiment.

### VI. Academic and Personal Integrity

- 1) Attribute ideas and information to source materials and people.
  - a) Document the work of others, giving credit where credit is due and never claim credit for work that is not one's own.
  - b) Use standard bibliographic and reference citation formats, choosing the style appropriate to the subject and the audience.
  - c) Define plagiarism and articulate the consequences of academic dishonesty.
- 2) Evaluate sources for quality of content, validity, credibility, and relevance.
  - a) Verify validity of a source within a submitted work.
  - b) Compare and contrast coverage of a single topic from multiple media sources.
- 3) Include the ideas of others, and the complexities of the debate, issue, or problem.
  - a) Present multiple perspectives of an issue.
  - b) Represent accurately the data, conclusions, or opinions of others.
- 4) Attend and adhere to ethical codes of instructional and academic conduct.
  - a) Follow copyright laws and restrictions.

## **Appendix C: Draft Cross-Disciplinary Competencies**

- b) Use technology responsibility (e.g., avoiding malice, misrepresentation, or misleading use of information).
  - c) Follow institutional codes of academic integrity, e.g., plagiarism.
- 5) Attend and adhere to ethical codes of personal and social conduct.
- a) Bases behavior upon ethical principles.
  - b) Exhibit non-discriminatory behavior.
  - c) Exercises rights and responsibilities of membership in communities of place and interest.

## Appendix C: Draft Cross-Disciplinary Competencies

### 2. Entry Level Skills for College Preparedness in Reading, Writing, & Oral Communication

#### I. Reading Across the Curriculum

- 1) Use effective pre-reading strategies
  - a) Use the title, knowledge of the author, and place of publication to make predictions about a text.
  - b) Use a table of contents and/or index to preview a text and understand its design.
  - c) Scan headline sections or other division markers, graphics, or sidebars to form an overview of a text.
  - d) Identify the intended purpose and audience of a text based on the title, preface, and other features of a text.
  - e) Adapt reading strategies according to structure of texts (e.g. forms & genres).
- 2) Use a variety of strategies to understand the meanings of new words
  - a) Use context clues, including definitions, examples, comparison, contrast,
  - b) Consult online and print references effectively (e.g. dictionary, thesaurus).
  - c) Identify and define key terminology, notation, and symbols from technical and/or scientific documents.
- 3) Identify & analyze textual information critically
  - a) Summarize the major points in a text and use graphic organizers to organize ideas and concepts in a visual manner.
  - b) Analyze connections between major and minor ideas.
  - c) Recognize, interpret, and draw inferences from graphic and other non-verbal materials (e.g., graphs, maps).
  - d) Identify faulty premises in an argument.
  - e) Identify stated and implied assumptions.
  - f) Identify conclusions unsupported by sufficient evidence in informational texts.
  - g) Use inductive and deductive reasoning.
  - h) Apply the material learned from reading to solve problems.
- 4) Connect reading to historical and current events and personal interest.

#### II. Writing Across the Curriculum

- 1) Understand and use a writing process.
  - a) Have flexible strategies for generating, revising, editing, and proofreading.
  - b) Understand writing as an open, flexible process that permits a writer to use later invention and rethinking to revise work.
- 2) Compose sound sentences
  - a) Use a variety of sentence structures correctly.
  - b) Produce sentences free of major sentence-level errors.
  - c) Communicate with few errors in grammar, usage and mechanics.

## **Appendix C: Draft Cross-Disciplinary Competencies**

- 3) Compose sound paragraphs
  - a) Write focused topic sentences.
  - b) Use descriptive details, examples, and facts to develop the paragraph's main idea.
  - c) Use effective patterns of organization and development.
  - d) Use transitional devices within paragraphs to achieve coherence and focus.
  
- 4) Produce sound discourse
  - a) Use basic essay structure, including an introduction, body, and conclusion.
  - b) Construct thesis statements.
  - c) Organize ideas logically.
  - d) Develop an essay's main idea with adequate and specific supporting detail.
  - e) Use transitional devices within essays to achieve coherence, flow, and focus.
  - f) Maintain appropriate tone and vocabulary for target audience.
  
- 5) Conduct Research
  - a) Distinguish between primary and secondary research.
  - b) Generate questions and areas to pursue.
  - c) Acknowledge source material and be able to distinguish it from personal ideas.
  - d) Locate and retrieve relevant information using traditional and contemporary technologies.
  - e) Evaluate reliability of information and sources.
  - f) Record relevant information.
  - g) Document sources of information, using recognized documentation format, to include textual as well as bibliographical references.

### **III. Oral Communication Across the Curriculum**

- a) Recognize the importance of effective speaking and listening habits.
- b) Organize and deliver appropriate oral presentations for specific disciplines.
- c) Use conventions of Standard English with few errors.
- d) Use critical and constructive listening skills.
- e) Distinguish among a variety of oral and written communication situations.
- f) Demonstrate methods of creative communication through effective audience awareness and adaptation.
- g) Demonstrate the use of audio/visual aids.

## Appendix C: Draft Cross-Disciplinary Competencies

### 3. Cross-Disciplinary Entry Level Skills for Technology and Information Literacy

#### 1) Internet Navigation

Students will demonstrate:

- a) Knowledge of content on the Internet by types such as commercial, government, research, social interaction, history, opinion, etc.
- b) Skill in using Web browsers such as Internet Explorer, Firefox, and others.
- c) Effectiveness in using search engines to locate specific information.
- d) Proficiency in downloading files such as print content, still and video images, music, software applications and utilities, etc.

#### 2) Software Application

Students will demonstrate:

- a) Functionality with Graphical User Interface (GUI) navigation via buttons, clicking, drag and drop, cut/copy/paste, saving one's work, login/logout, etc.
- b) Proficiency with word processing applications such as Microsoft Word.
- c) Ability to create, to send, and reply to e-mail and e-mail attachments.
- d) Basic skills in creating presentations via applications such as Microsoft PowerPoint.
- e) Competent usage of content management software (Blackboard, Moodle, et.al).

#### 3) Hardware Operation

Students will demonstrate:

- a) The ability to use USB flash drives, optical disc media, and other options for data storage and retrieval.
- b) Knowledge of printers and other hardware devices as applicable.

#### 4) Techniques for Research

Students will demonstrate:

- a) Skills in using library databases and catalogs.
- b) Critical evaluation of web resources for credibility, reliability, and accuracy.
- c) Proper documentation of electronic source material.

#### 5) IT ethics and socially responsible use of IT-related resources

Students will identify or explain:

- a) Basics of copyright law and fair use concepts.
- b) Ethical aspects of file uploading, downloading, and file sharing.
- c) General understanding of software licensing practices.
- d) Distinction between proprietary and open-source (freeware) approaches to software distribution.
- e) Social issues regarding the "digital divide" as it applies to access to technology.
- f) How this division affects economic and workforce issues relating to society and technology.

## Appendix D: Draft METS Entry Competencies

Included METS Entry Competencies:

1. Engineering..... 51
2. Information and Engineering Technology... 56

## Appendix D: Draft METS Entry Competencies

### 1. Draft Engineering Entry Competencies

Note: All calculations should be performed without the use of technology (i.e., calculator). Some examples of skills are provided in parentheses.

#### I. Algebra and Real Numbers

- 1) Use symbols and operators to represent ideas and objects and the relationships existing between them.
- 2) Understand the relationship between measures of the physical world. (Velocity, distance and time: On a 40-mile car trip to Middletown, NY, you drive the first twenty miles at 40 mph and the last twenty miles at 60 mph. What is your average speed during the trip?)
- 3) Know and apply the following algebraic properties of the real number system: identity, associative, commutative, inverse, and distributive.
- 4) Express numbers using scientific notation. (Express 0.004312 in scientific notation.)
- 5) Write a number as the product of factors. (Write 42 as the product of prime factors.)

#### II. Radicals and Exponents

- 1) Convert between radical and rational exponent form. (Transform  $\frac{1}{\sqrt{x+2}}$  to the rational exponent form  $(x+2)^{-\frac{1}{2}}$ .)
- 2) Manipulate algebraic expressions that contain integer and rational exponents. (Simplify  $4^{-\frac{3}{2}} \cdot 27^{\frac{2}{3}}$ .)

#### III. Algebraic Expressions

- 1) Add, subtract, multiply, and divide algebraic expressions. (Find the remainder when  $x^3 - 7x^2 + 9x$  is divided by  $x - 2$ .)
- 2) Simplify algebraic expressions. (Expand and simplify  $(x - 3)(x - 2)(x - 1)$ .)

#### IV. Linear Equations, Inequalities and Absolute Values

- 1) Understand the meaning of solutions to linear and rational equations and be able to solve such equations whenever appropriate.
- 2) Determine the equation of a line. (Find the equation of a straight line passing through the points (2, 1) and (5, 4).)
- 3) Determine the equation of a line that is parallel or perpendicular to a given line. (Find the equation of a line parallel to the line  $2y - 3x = 7$  and passing through the point (1, 2).)
- 4) Solve 2 simultaneous linear equations by graphing and by substitution. (Use a graph to estimate the point of intersection of the lines  $2x + 3y = 7$  and  $-x + y = 4$ . Verify your result using back substitution.)

## Appendix D: Draft METS Entry Competencies

- 5) Solve linear equations and inequalities [graphically and algebraically]. (Solve  $5(3 - x) > 2(x - 2x)$  for  $x$ .)
- 6) Understand the meaning of solutions to linear and absolute value inequalities. Solve linear equations and inequalities with absolute values. (Solve  $|x - 4| \geq 3$  for  $x$ .)
- 7) \*Understand the meaning of solutions to linear systems of equations and be able to use effective ways to find and express possible solutions.
- 8) \*Understand the concepts of matrices and their inverses (if exist), matrix operations, determinants, and be able to perform required computations. Understand how matrices are used to model and solve system of linear equations and be able to perform required appropriate computations.

*\* Recommended Topics*

### V. Polynomials, Roots of Polynomials, and Rational Inequalities

- 1) Understand the properties and graphs of polynomial functions.
- 2) Understand the meaning of zeros of polynomial functions and their connection to the graphs of these functions.
- 3) Solve for the roots of a polynomial by factoring. (Find the roots of  $x^2 - 5x + 6 = 0$ .)
- 4) Understand the meaning of the Remainder Theorem and its application to evaluating polynomial functions.
- 5) Understand the meaning of the Factor Theorem and its application to solving polynomial equations.
- 6) Understand the meaning of solutions to polynomial and rational inequalities and be able to solve such inequalities whenever appropriate.
- 7) Solve simple polynomial inequalities. (Solve  $x^2 + 3x + 6 > x - 4$  for  $x$ .)
- 8) Solve simple rational inequalities. (Solve  $\frac{x - 3}{x + 1} < 2$  for  $x$ .)
- 9) Understand the importance of the Fundamental Theorem of Algebra, its application to polynomial equations, and its connection to complex numbers.

### VI. Functions, Graphs and Graphing

- 1) Identify the independent and dependent variables of a function.
- 2) Evaluate a function at a point. (Given  $f(x) = 3x^2 - 2x + 4$ , find  $f(2a)$ .)
- 3) Determine the domain and range of a real valued function. (Find the domain and range of the real valued function  $g(x) = \frac{1}{x^2 - 2}$ .)
- 4) Understand the concept of combining functions and be able to perform these operations and recognize the resulted functions and their properties.
- 5) Evaluate composite functions. (Given  $h(r) = 3r^2$  and  $g(s) = 2s$ , find  $h(a + 2) - g(2a)$ .)
- 6) Understand the concept of piecewise-defined functions and be able to translate this knowledge to their properties and graphs.

## Appendix D: Draft METS Entry Competencies

- 7) Graph equations and inequalities. (Sketch a graph of the function  $f(x) = 3x^2 - 2x + 7$  for  $1 < x < 5$ .)
- 8) Understand the concept of transformation (e.g., shifting, reflecting, stretching, shrinking) of functions and be able to recognize and apply such knowledge when graphing functions.
- 9) Transform the graph of a known function. (From the graph of  $f(x)$ , graph
- 10)  $g(x) = 2f(x) - 3$ .)
- 11) Understand the invertibility of functions and the relationship between functions inverse to each other, and be able to determine inverse functions when appropriate.
- 12) Understand the properties and graphs of rational functions and be able to generate appropriate information, including axes, intercepts, asymptotes, and roots.
- 13) Know the general characteristics and shapes of the graphs of polynomial, logarithm, exponential and trigonometric functions.
- 14) Understand the properties and graphs of parabolas, ellipses, and/or hyperbolas and be able to perform basic related algebraic/graphing operations.

### VII. Equations of Quadratic Type and Complex Numbers

- 1) Understand the concept of complex numbers and be able to perform operations involving them.
- 2) Calculate the sum, difference, product, and quotient of complex numbers and express the result in standard form.
- 3) Understand the meaning of solutions to quadratics equations and be able to solve such equations
- 4) Solve for real and complex roots using the quadratic formula. (Find the roots of  $3x^2 + 2x = -1$ .)
- 5) Solve a system of quadratic equations in 2 variables by substitution. (Solve the system  $y = 3 - x^2$  and  $y = 4 + 2x^2 - 2x$ .)
- 6) Understand the relationship between quadratic functions and parabolas, and able to connect such knowledge to quadratics equations.

### VIII. Logarithmic and Exponential Functions

- 1) Understand the meaning of solutions to exponential and logarithmic equations and be able to apply the inverse relationship between exponentials and logarithms to equations involving them whenever appropriate.
- 2) Apply the properties of logarithms and their relationship to exponentials. Be able to perform operations on logarithms. [ $y = \log_a x, a > 0, a \neq 1$ , is the inverse of the function  $y = a^x$ ;  $\log_a x \Leftrightarrow a^y = x$ ]. (Evaluate  $\log_3 27$ .)
- 3) Know the properties of the logarithmic and exponential functions and use them to simplify logarithmic expressions. (Express as a single logarithm:  $0.5 \log_{10} x - \log_{10} y$ .)
- 4) Know how to solve simple logarithmic and exponential equations. (Solve the equation  $3^{x+4} = 4$  for  $x$ .)
- 5) Understand the properties and graphs of logarithmic and exponential functions and be able to evaluate and graph such functions.

## Appendix D: Draft METS Entry Competencies

- 6) Understand the meaning of exponential growth and decay and apply the knowledge of exponential and logarithmic functions model two applications.

### IX. Analytic Geometry

- 1) Know and apply the distance formula between 2 points. (Find the distance between the two points A(1, 2) and B(-5, -3).)
- 2) Understand the geometric concepts of angle (e.g. initial side, terminal side, coterminal angles, degree, radian, central angle, circular arc length, circular sector area, and reference angle) and be able to apply appropriate properties.
- 3) Know and apply the circumference and area formulas for circles, triangles, and rectangles. (If you double the radius of a circle, what happens to its circumference?)
- 4) Know and apply the surface and volume formulas for cylinders, spheres and rectangular solids.
- 5) Know the relationship between similar triangles. (A rectangle with base  $x$  and height 5 is inscribed in an isosceles triangle with base 10 and height 20. Determine  $x$ .)
- 6) Know and apply the Pythagorean Theorem to simple geometric problems. (Given a rectangle that is 4 ft by 7 ft determine the length of the diagonal.)

### X. Use of Mathematics to Solve Application from Various Fields

- 1) Apply the acquired understanding and knowledge of functions to model appropriate real-world situations and draw mathematical conclusions.
- 2) Understand the underlining principle of variation and how it is used to model many applications.
- 3) \* Understand the meaning of solutions to systems of nonlinear equations and be able to use effective ways to find and express possible solutions.
- 4) Understand the meaning of compound interest and apply the knowledge of exponential functions to model this application.
- 5) \* Be able to use trigonometry to model and solve basic applied problems.

*\*Recommended Topics*

### XI. Trigonometric Functions & Their Inverses

- 1) Define each of the 6 trigonometric functions ( $\sin(\theta)$ ,  $\cos(\theta)$ ,  $\tan(\theta)$ ,  $\cot(\theta)$ ,  $\sec(\theta)$ , and  $\csc(\theta)$ ) in terms of the sides of a right triangle. ( $\cos(\theta) = \frac{x}{r}$  where  $x$  is the adjacent side and  $r$  is the hypotenuse.)
- 2) Define each of the 6 trigonometric functions in terms of  $\sin(\theta)$  and  $\cos(\theta)$ . ( $\tan(\theta) = \frac{\sin(\theta)}{\cos(\theta)}$ .)
- 3) Understand the concepts of the six trigonometric functions, both in terms of a unit circle and a right triangle, and be able to apply such knowledge.
- 4) Know the domain and ranges for the sine, cosine, and tangent functions.
- 5) Convert angle measures between degrees and radians. (Write 120 degrees as a radian measure.)

## Appendix D: Draft METS Entry Competencies

- 6) Memorize and use the 30/60/90 and 45/45/90 degree reference triangles.
- 7) Understand the graphs of the six trigonometric functions and be able to recognize and apply such knowledge (including incorporation of appropriate transformations: shifting, reflecting, stretching, and shrinking).

### XII. Trigonometric Identities and Equations

- 1) Understand the general nature of proving trigonometric identities and be able to perform such task appropriately.
- 2) Know and apply the trigonometric identity  $\sin^2(\theta) + \cos^2(\theta) = 1$ . (Simplify the expression  $2\cos^2(\theta) + \sin^2(\theta) - 1$ .)
- 3) Understand the general nature of trigonometric equations and be able to solve such equations whenever appropriate.
- 4) Be familiar with useful formulas (e.g. addition and subtraction, double-angle, half-angle, product-to sum, sum-to-product, law of sines, law of cosines, and Heron's) and able to use them appropriately.
- 5) Understand the concepts and graphs of inverse trigonometric functions and their related properties, and be able to perform appropriate operations.

### XIII. Recommended Topics in Trigonometry

- 1) Understand the trigonometric form and its geometric interpretation for complex numbers, and be able to recognize and perform basic conversions.
- 2) Understand the multiplication and division of complex numbers in trigonometric form and their respective geometric interpretation.
- 3) Understand De Moivre's Theorem and its geometric interpretation, and be able to apply the concept to find roots of complex numbers.
- 4) Understand the basic concepts and operations of two-dimensional vectors, their respective geometric interpretation, and the trigonometric aspect of the inner (dot) product.
- 5) Geometry of complex numbers.

## Appendix D: Draft METS Entry Competencies

### 2. Engineering & Information Technology Entry-Level Competencies

*With thanks to ISTE's National Educational Technology Standards for Students project and the Missouri Developmental Education Consortium*

#### I. Math

- 1) Use the x/y/z coordinate system to depict results of mathematical operations.
- 2) Understand and apply the metric system.
- 3) Demonstrate proficiency in defining and referencing ratios.
- 4) Display skill in working with fractions.
- 5) Utilize associative, commutative, and distributive properties.
- 6) Simplify expressions using the order of operations.
- 7) Distinguish between elements of the sets of real numbers.
- 8) Distinguish between expressions, equations by type, and inequalities.
- 9) Solve expressions, equations by type, and inequalities.
- 10) Use graphs and number lines to depict results of equations and inequalities.
- 11) Identify, solve, and label systems of equations.
- 12) Use scientific notation to simplify exponential expressions.
- 13) Employ polynomial operations and terminology correctly.
- 14) Solve quadratic equations by factoring and quadratic methods.
- 15) Perform standard operations with rational expressions.
- 16) Perform standard operations with terms containing radicals.
- 17) Perform graphing skills to depict results of equations and inequalities.
- 18) Use a calculator to perform basic mathematical operations.

#### II. Computer Literacy

- 1) Applications—demonstrate a standard proficiency in each of the following:
  - a) Word processing.
  - b) Presentation.
  - c) Spreadsheet.
  - d) Web browser.
  - e) E-mail client.
  - f) File transfer client.
- 2) Computer Savvy
  - a) Recognize basic hardware by concept and by usage:
    - i) Desktop computer—PC or Macintosh.
    - ii) Printer—inkjet, laser, and dot-matrix.
    - iii) Scanner—by type and quality.
    - iv) Digital camera—still-shot and motion video.
    - v) MP3 player—by make and quality.
  - b) Apply existing knowledge when learning new technologies.
  - c) Develop or learn basic troubleshooting skills.
  - d) Identify basic networking concepts for local- and wide-area networks.
  - e) Demonstrate basics for computer security and safe computer use.
- 3) Operating Systems Skills
  - a) Use operating system features and functions.

## Appendix D: Draft METS Entry Competencies

- b) Manage the user interface.
- c) Understand file formats.
- d) Demonstrate skill with file management.
- e) Understand interaction between operating systems and applications.

### III. Communication Skills

- 1) Demonstrate comprehension skills in written, verbal, and graphic information structures.
- 2) Interact / collaborate / publish with peers, experts, and others through varied digital environments and media types.
- 3) Communicate ideas via variety of media and formats.
- 4) Contribute to project teams to produce and deliver original works or to solve problems.
- 5) Develop and demonstrate global cultural understanding and awareness by communicating with learners from non-native cultures.
- 6) Identify and explain how computers affect interaction in local society and between cultures.

### IV. Professionalism

- 1) Positive work ethic.
  - a) Provide proof of punctual and reliable conduct.
  - b) Employ a positive mental attitude.
  - c) Demonstrate honesty in all actions.
- 2) Personal and business ethics.
  - a) Embrace and exhibit the concept of personal honesty
  - b) Understand and follow legal standards applicable to IT.
  - c) Understand and follow IT business accountability standards.
- 3) Digital citizenship.
  - a) Understand human, cultural, and societal issues related to technology.
  - b) Advocate and practice safe, legal, and responsible information and technology use.
  - c) Exhibit a positive attitude for collaboration, learning, and productivity via technology.
  - d) Demonstrate personal responsibility for lifelong learning.

### V. Research and information gathering skills

- 1) Search engine usage.
  - a) Employ effective querying skills.
  - b) Demonstrate how to search within results.
  - c) Show how to store and consult search results.
- 2) Other digital tools.
  - a) Plan strategies to guide inquiry.
  - b) Gather, organize, analyze, synthesize, and use information from media sources.
  - c) Consider and select appropriate methods for information delivery

## Appendix E: Exit-Level Course Competencies

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## **Appendix E: Exit-Level Course Competencies**

### **1. Introduction to Philosophy**

1. Students will identify the major areas of philosophy (e.g., metaphysics, epistemology, ethics and political philosophy, and logic) and explain and analyze (perhaps with reference to historical figures) some of the major philosophical problems in several of these areas.
2. Students will identify and evaluate arguments in general and on philosophical topics.
3. Students will develop and defend a thesis on philosophical topics.
4. Students will critically examine their own views, to try to understand those of others, and to appreciate that on complex matters reasonable people can disagree.

## Appendix E: Exit-Level Course Competencies

### 2. Introduction to Theatre

Students exiting a college level Introduction to Theatre class should be able to meet the following objectives:

In the case of the first objective, students will meet the requirement through actual physical participation in the making of a theatrical production. For the rest of the objectives students will demonstrate the requirements through the use of clear, correct, and properly cited writing. Students will:

- 1) Participate (in some way) in the production and/or presentation of a play.
- 2) Show in writing a familiarity with several playwrights' work.
- 3) Restate the through-line or theme of a play in writing.
- 4) Describe how you would complete one of the tasks in presenting live theatre.
- 5) Show through testing or writing a familiarity with the major movements in the history of theatre.
- 6) Compose and write a beginning, personal theatre aesthetic with which to evaluate a performance.

## Appendix E: Exit-Level Course Competencies

### 3. Freshman Composition Sequence

The following competencies are the writing, thinking, communication, and expressive skills identified and recommended by a group of high school teachers, community, and four-year college English instructors. Upon successfully completing the required freshman composition course or sequence of courses, students should be able to do the following:

- 1) Demonstrate critical and analytical thinking for reading, writing, and speaking.
  - a) Participate in active reading and discussion of a variety of texts.
  - b) Incorporate ideas and information from readings into own writing.
  - c) Identify purpose, main idea, and supporting evidence.
  - d) Distinguish between fact and opinion and recognize textual biases.
  - e) Distinguish between general and specific information.
  - f) Summarize and paraphrase information.
  - g) Analyze and evaluate their own and others' speaking and writing.
  - h) Communicate effectively in groups by listening, reflecting, and responding appropriately.
  - i) Formulate diagnostic questions for resolving issues and identify possible solutions.
  - j) Show an awareness of the different modes of comprehension, as well as expression, required for effective oral communication, as opposed to written.
- 2) Compose sound and effective sentences.
  - a) Use a variety of sentence structures correctly.
  - b) Understand and employ subordination and coordination to express ideas.
  - c) Avoid major sentence-level errors such as fragments, comma splices, fused sentences, etc.
  - d) Communicate with few errors in grammar, usage, diction, and mechanics.
- 3) Compose unified, coherent, and developed paragraphs.
  - a) Write focused topic sentences.
  - b) Maintain focus and unity of paragraph.
  - c) Use details, examples, and facts to develop the paragraph's main idea.
  - d) Select and use appropriate patterns of organization for subject audience, and purpose.
  - e) Use transitional devices.
  - f) Employ appropriate, developed, and wide-ranging vocabulary.
- 4) Understand and use a recursive writing process to develop strategies for generating, revising, editing, and proofreading texts.
- 5) Produce rhetorically effective discourse for subject, audience, and purpose.
  - a) Organize a logically structured essay that includes an introduction, body, and conclusion.
  - b) Develop an essay's controlling idea (thesis or claim) with a balance of generalizations and adequate specific, illustrative details.
  - c) Use transitional devices to achieve coherency, unity, and focus.
  - d) Use a variety of rhetorical strategies to analyze and respond to topics and texts.
  - e) Support position using relevant evidence and a reasoned argument.

## Appendix E: Exit-Level Course Competencies

- f) Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes.
- 6) Demonstrate effective research and information literacy skills.
- a) Formulate a [manageable] research question.
  - b) Access appropriate sources.
  - c) Evaluate and analyze information for credibility and accuracy.
  - d) Synthesize information from a variety of sources and apply the synthesis to complex situations and problems.
  - e) Cite primary and secondary sources using appropriate documentation style such as MLA, Chicago Manual, APA, etc.

## Appendix E: Exit-Level Course Competencies

### 4. Oral Communication/Public Speaking

The standards outlined below reflect college course exit competencies for oral communication in research, writing, thinking, communication, expressive skills and presentation identified and recommended by a group community and four-year college communication instructors. Upon successfully completing the required oral communication course, students should be able to do the following:

- 1) Invention: Demonstrate the ability to use productive imagination for the discovery and evaluation of appropriate arguments relating to a chosen topic through effective research. That is to understand different aspects and points of view pertaining to the topic.
- 2) Through presentations skills students will demonstrate they understand the basic process of audience analysis by addressing the following:
  - a. Identify the target (and secondary) audience in terms of:
    - i. Demographics.
    - ii. Cultural concerns.
    - iii. Gender.
    - iv. Knowledge level of subject.
  - b. Understand the needs of that audience as it pertains to the presentation.
- 3) Students will be knowledgeable and able to use, identify, and create speeches for different types of speaking purposes, including:
  - a. Informing
  - b. Persuading
  - c. Entertaining
  - d. Motivational
- 4) Demonstrate effective preparation skills in the organization of speeches into three appropriate sections and preparing each section using the appropriate information and transitions between information and sections. These sections are:
  - a. Introduction
  - b. Body
  - c. Conclusion
- 5) Utilize and understand the patterns of organization to structure information for each specific type of speech. Students will use parallel ideas and information on different levels of abstraction in these patterns.
  - a. Chronological order - the time order in which events took place.
  - b. Cause to effect - show how your topic was the result of essential events.
  - c. Climax order - work from the least important information to the most important.
  - d. Anti-climax order - work from the most to least important information.
  - e. Spatial order - describe the physical setup of your topic.

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- 6) Students demonstrate effective skill at composing and developing arguments with appropriate support that is unified, coherent, and fully developed utilizing the tenets of good writing and research.
  - a. Formulate a focused [manageable] topic sentence or thesis statement.
  - b. Access appropriate sources.
  - c. Evaluate and analyze information for credibility and accuracy.
  - d. Synthesize information from a variety of sources and apply the synthesis to complex situations and problems.
  - e. Use a variety of rhetorical strategies to analyze and respond to topics and texts.
  - f. Support position using relevant evidence and a reasoned argument.
  - g. Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes.
  
- 7) Students will understand the complex issue of good delivery and show improved personal confidence and the ability to manage communication apprehension. Increased competencies will be demonstrated in:
  - a. Verbal skills.
  - b. Non-verbal components.
  - c. Articulation, vocal variety, rate, pitch, tone, and enthusiasm.
  - d. Appropriate speaking persona.
  - e. Credibility, confidence , managing apprehension.
  - f. Tie speaking skills into audience listening.
  - g. Critique of ones own speaking persona.
  
- 8) Students will demonstrate effective listening skills as it relates to critical understanding of speech topics and critique of that speaking, doing the following:
  - a. Critical thinking and comprehension of speech topics.
  - b. Attending and listening with an open mind free of judgment.
  - c. Distinguishing between logical and emotional appeals.
  - d. Recall of information.
  - e. Evaluation of information and logical organization of presentations.
  
- 9) Students will demonstrate that they understand and take part in ethical speaking and listening during presentations. Understanding communication ethics for both speech preparation and critiquing of peer speeches by:
  - a. Utilizing responsible research and citing sources.
  - b. Preparing speeches with integrity when dealing with information and sources.
  - c. Using emotional and logical appeals responsibly.
  
- 10) Students will demonstrate and understand the role of public speaking in citizenry and how public speaking can contribute to success in the classroom and society.

## Appendix E: Exit-Level Course Competencies

### 5. First Semester Foreign Language

The standards outlined below reflect college first semester exit competencies and are equivalent to the ACTFL (American Council on the Teaching of Foreign Languages) Novice Mid level and the CEF (Common European Framework) A1 level, with the exception of the optional cultural knowledge section. In each respective section below, students will:

#### I. Listening

- 1) Understand short and simple conversations on familiar topics such as myself, family, and my immediate surroundings when spoken slowly and clearly.
- 2) Sometimes recognize cognates, affixes, and thematic vocabulary to help me understand live or recorded spoken language.

#### II. Reading

- 1) Understand familiar names, words, and very simple sentences, for example on notices and posters or in catalogues.
- 2) Understand basic questions on standardized forms well enough to give important information (name, date of birth, nationality).
- 3) Distinguish between questions, statements, and exclamations.

#### III. Writing

- 1) Write lists, very short messages, post cards, and simple notes.
- 2) Write simple sentences describing myself and others using memorized phrases on familiar topics such as self, family, and immediate surroundings.
- 3) Supply basic personal information, such as physical information and preferences, in simple forms.

#### IV. Speaking

- 1) Describe self with some hesitation using memorized words and phrases and can ask and answer simple questions on familiar topics such as self, family, and immediate surroundings.
- 2) Use simple phrases and sentences to describe where they live and people they know, making themselves understood by a sympathetic native speaker.

#### V. Cultural Knowledge (OPTIONAL)

- 1) Have increased knowledge and appreciation of a different culture.

Suggested topics for inclusion in a first-semester foreign language course (ex.: Italian)

1. Italy and the world	6. Educational system
2. Families and values in Italy	7. Spending money, bank system
3. Geography, how to place people, regional differences, dialects	8. Modern cities
	9. Youth and their interests

## Appendix E: Exit-Level Course Competencies

4. A typical day: work, play, daily habits, meals 5. Health issues	10. Art, artists, authors, films, TV, cartoons, comic books
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## Appendix E: Exit-Level Course Competencies

### 6. College Algebra

All institutions generally expect students should be able to:

- 1) Understand the concepts of functions and be able to apply the properties of functions and their graphs.
- 2) Understand the relationship between linear functions and straight lines and be able to apply such knowledge.
- 3) Understand the concept of piecewise-defined functions and be able to translate this knowledge to their properties and graphs.
- 4) Understand the concept of transformation (e.g., shifting, reflecting, stretching, shrinking) of functions and be able to recognize and apply such knowledge when graphing functions.
- 5) Understand the concept of combining functions and be able to perform these operations and recognize the resulted functions and their properties.
- 6) Understand the invertibility of functions and the relationship between functions inverse to each other, and be able to determine inverse functions when appropriate.
- 7) Understand the meaning of solutions to linear and rational equations and be able to solve such equations whenever appropriate.
- 8) Apply the acquired understanding and knowledge of functions to model appropriate real-world situations and draw mathematical conclusions.
- 9) Understand the concept of complex numbers and be able to perform operations involving them.
- 10) Understand the meaning of solutions to quadratics equations and be able to solve such equations.
- 11) Understand and recognize other types of equations and be able to apply previously acquired knowledge to solve such equations whenever appropriate.
- 12) Understand the meaning of solutions to linear and absolute value inequalities and be able to solve such inequalities whenever appropriate.
- 13) Understand the relationship between quadratic functions and parabolas, and able to connect such knowledge to quadratics equations.
- 14) Understand the properties and graphs of polynomial functions and be able to perform basic operations involving polynomials.
- 15) Understand the meaning of the Remainder Theorem and its application to evaluating polynomial functions. Understand the meaning of the Factor Theorem and its application to solving polynomial equations.
- 16) Understand the meaning of zeros of polynomial functions and their connection to the graphs of these functions.
- 17) Understand the importance of the Fundamental Theorem of Algebra, its application to polynomial equations, and its connection to complex numbers.
- 18) Understand the properties and graphs of rational functions and be able to generate appropriate information, including asymptotes.
- 19) Understand the meaning of solutions to polynomial and rational inequalities and be able to solve such inequalities whenever appropriate.
- 20) Understand the properties and graphs of exponential functions and be able to evaluate and graph such functions.

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- 21) Understand the relationship between logarithmic functions and exponential functions and be able to evaluate and graph such functions.
- 22) Understand the properties of logarithms and their relationship to exponentials. Be able to perform operations on logarithms.
- 23) Understand the meaning of solutions to exponential and logarithmic equations and be able to apply the inverse relationship between exponentials and logarithms to equations involving them whenever appropriate.
- 24) Understand the meaning of exponential growth and decay and apply the knowledge of exponential and logarithmic functions model two applications.
- 25) Understand the meaning of compound interest and apply the knowledge of exponential functions to model this application.

The following competencies are based on the elective topics and vary from institution to institution. Students should be able to:

- 1) Understand the underlining principle of variation and how it is used to model many applications.
- 2) Understand the meaning of solutions to linear systems of equations and be able to use effective ways to find and express possible solutions.
- 3) Understand the meaning of solutions to systems of nonlinear equations and be able to use effective ways to find and express possible solutions.
- 4) Understand the concepts of matrices and their inverses (if exist), matrix operations, determinants, and be able to perform required computations. Understand how matrices are used to model and solve system of linear equations and be able to perform required appropriate computations.
- 5) Understand the properties and graphs of parabolas, ellipses, and/or hyperbolas and be able to perform basic related algebraic/graphing operations.
- 6) Understand the concepts of sequences and series (including the arithmetic and geometric cases) and their applications. Be able to perform basic related algebraic tasks.

## Appendix E: Exit-Level Course Competencies

### 7. General Geology

Introductory Geology is a valuable tool for teaching the nature of science and how science advances given that the change in paradigm is well-known (for example, plate tectonics) and the relationship between progress in science and invention of new technologies is clear (for example, seismology). However, while the use of a geology course for teaching the nature of science necessitates teaching some basic geologic concepts, this approach greatly minimizes the required learning of specific, detailed subtopics within geosciences. Below are the basic geologic concepts that are essential to understanding the nature of science as taught in geology. For each, students should be able to:

#### I. Tectonics.

- 1) Describe the evidence leading to the Theory of Plate Tectonics.
- 2) Describe the interior structure of the earth.
- 3) Interpret the distribution of earthquakes, volcanoes, mountain building, etc. in terms of the Theory of Plate Tectonics.
- 4) Recognize geologic structures produced by tectonic forces.

#### II. Earth Materials

- 1) Describe the processes involved in the Rock Cycle.
- 2) Describe the properties of minerals used in their identification.
- 3) Explain how rocks are classified using criteria such as composition and texture; know how this process would apply to the most common types of igneous, metamorphic and sedimentary rocks.

#### III. Surface Processes

- 1) Describe the various processes in the decomposition of rock.
- 2) Describe how materials are eroded, transported and deposited (e.g. by water, wind, ice, gravity).
- 3) Explain how erosion, transportation and deposition produce and/or modify landforms.
- 4) Describe the interaction between surface water and groundwater.
- 5) Evaluate the earth-human interaction.

#### IV. Geologic Time

- 1) Recognize major earth events in the framework of geologic time.
- 2) Differentiate between absolute and relative dating.
- 3) Describe and apply the principle of uniformitarianism.
- 4) Explain how the concepts of faunal succession and stratigraphic correlation have been used to develop the geologic time scale.

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### 8. Introduction to Astronomy

Introductory Astronomy provides an ideal tool for teaching the nature of science and the scientific method. In particular, the paradigm shifts are well-known (e.g. geocentric vs. heliocentric models of the solar system) and the relationship between progress in science and invention of new technologies is clear. However, while the use of an astronomy course for teaching the nature of science necessitates teaching some basic physics concepts, it does not require specific subtopics within astronomy to be learned.

What follows is a list of both the physics concepts and astronomical topics that are deemed essential to an astronomy course whose aim is to convey the nature and methods of science.

#### I. Physics Concepts

The first exit competency must be to specify which physics concepts are essential to understanding the nature of science as taught in astronomy. They include:

- 1) Newton's laws
- 2) the nature of light (both waves and particles)
  - a) color, wavelength and energy
  - b) Doppler effect
- 3) electronic structure of atoms
- 4) spectroscopy and the relationship between (2) and (3)
- 5) blackbody radiation

In all cases, students should be able to demonstrate an understanding of the concepts and the meaning of the equations, though a rigorous mathematical understanding of formulas is not necessary. That is, they should know that the gravitational force between two bodies is proportion to the masses and inversely proportional to separation squared; they should know that the nature of a blackbody is such that the total power output is proportional to both the size (radius) and the temperature of an object, but that the effect of temperature is stronger than that of size.

#### II. Astronomical Concepts

- 1) Students should be able to explain how the motion of astronomical objects is viewed across the sky on various timescales (e.g. daily, monthly, yearly, etc.). Students should:
  - a) Know how these apparent motions are manifest themselves in terms of seasons and lunar phases.
  - b) Know that scientific relevance of the Zodiac constellations is simply that these constellations define the ecliptic plane (where the sun and planets travel on the sky).
- 2) Students should know the properties of planetary motion as described by Newton's Laws and Kepler's Laws. They should know how these properties allow us to derive planetary (and in fact stellar) masses.

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- 3) Students should know what the fundamental measurable properties of stars are, such as distance (where applicable), brightness, temperature, and derivable properties such as mass, radius, etc. They should:
  - a) Know how those properties are derived.
  - b) Know what the Hertzsprung-Russell diagram is and what can be represented on it (populations of stars, evolutionary paths of stars).
  - c) Know star nomenclature (main sequence, giant, supergiant, dwarf, etc.).
- 4) Students should know the hierarchical structure of the universe (solar system, galaxies, cluster galaxies, universe) and the methods of measuring astronomical scales (especially parallax and standard candles, but also Doppler shift and its relationship to Hubble's Law).
- 5) Students should know what Hubble's Law is and how it was determined. They should know how it can be used both to determine the history and to extrapolate the probable evolution of the universe.

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### 9. Introductory Biology

This document is designed to facilitate the transfer of general education credit for undergraduate, non-majors' biology lecture courses among institutions in the State of Missouri.

All biology lecture courses designed for non-science majors should help students:

1. Develop an understanding of how science is conducted.
2. Develop an understanding of basic biological concepts necessary for biological literacy.
3. Apply higher-level thinking to biology concepts, with emphasis placed on those skills and content needed by educated citizens.
4. Explore biological issues of concern to the public, forming a foundation for life-long learning on scientific issues.

It is expected that faculty teaching an introductory biology course for non-majors will address each of the eight concepts described below. Various approaches are appropriate for teaching each concept. *This document provides suggested objectives, but it is not required that every objective be achieved for every concept.*

These competencies are not designed to limit the topics in college biology to these eight concepts, but is rather a foundation upon which other topics may be added at the instructor's discretion.

Some aspects of this document were taken either directly or indirectly from the following sources:

- Summary of Group Goals for Introductory Biology from the Missouri Alignment Project: Life Sciences Discipline Workgroup, as summarized by Deborah Allen.
- MIT Hierarchical Introductory Biology Concept Framework (<http://web.mit.edu/bioedgroup/HBCF/CBE-Summer2004.html>)
- Quality in Undergraduate Education – Standards for a Non-Majors Biology Course (<http://www2.gsu.edu/~wwwque/standards/biology/biologynonmajors.html>)

1) Biology is a scientific discipline based on observations and experiments.

Objectives to support this concept may include:

- a) Judge the validity of science found in popular media based on the source, methodology used to investigate the science, and the conclusions drawn from the results.
- b) Read and discuss scientific material written for the educated lay reader.
- c) Explain that scientific knowledge is cumulative and subject to changes in interpretation based on new evidence.

2) At the molecular level, biology is based on interactions of three-dimensional molecules and life processes are the result of regulated chemical reactions.

Objectives to support this concept may include:

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- a) Explain why each of the four major categories of organic molecules (carbohydrates, lipids, nucleic acids, proteins) is required for living systems.
- b) Recognize that the metabolism of living things is a series of chemical reactions that transfers energy and atoms between molecules.
- c) Apply an understanding of a molecule's 3-dimensional shape to molecule function (e.g. tertiary protein structure to enzyme function).

3) The cell is the basic unit of life.

Objectives to support this concept may include:

- a) Determine if an object is living or non-living, prokaryotic or eukaryotic, plant cell or animal cell based on identifying characteristics.
- b) Explain how different parts of the cell contribute to characteristics common to all living things.
- c) Interpret the statement, "Cells arise from other cells," using cellular reproduction as evidence.

4) The structure of DNA guides its own replication, the production of proteins, and the transmission of information to future generations.

Objectives to support this concept may include:

- a) Describe how the structure of DNA makes it possible for identical copies to be made when cells replicate.
- b) Draw and/or explain the relationship between DNA molecules, chromosomes, genes, alleles and genomes.
- c) Explain that genes are segments of DNA with information for making a protein and that the sequence of bases in that DNA segment dictates the sequence of amino acids in the protein.
- d) Apply an understanding of gene expression to explain why most somatic cells in an individual have the same genetic information, but are structurally and functionally different.
- e) Integrate an understanding of genes and protein synthesis to explain why a mutation can change the resulting protein.
- f) Explain that versions of genes (alleles) are sources of variation in a population and the source of inheritable genetic diseases.
- g) Relate gene expression and phenotype.

5) The physiology of multicellular organisms involves interactions among different levels of organization.

Objectives to support this concept may include:

- a) Describe the relationship between the following levels of organization: molecule, organelle, cell, tissue, organ, organ system, and organism.

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- b) Explain how changing a fundamental physiological process at the molecular level will impact the other levels in the organizational hierarchy (e.g., cystic fibrosis, photosynthesis, etc.)
- c) Define and give examples of homeostasis.
- d) Explain how physiological development is controlled by carefully synchronized chemical signals.

6) Organisms interact with each other and the environment.

Objectives to support this concept may include:

- a) Give examples of the interdependency of biotic and abiotic components of ecosystems (e.g. nutrient cycling, energy flow, etc.).
- b) Describe the impact of human activity on the environment and how this impact may drive biological change, loss of habitat, and/or species extinction.
- c) Describe a) how human activities contribute to the greenhouse effect, b) the consequences of global climate change, and c) strategies for mitigating these effects.
- d) Explain the relationship between the following levels of organization: organism, population, communities, ecosystems and biosphere.

7) The Theory of Evolution is the central unifying theme of biology.

Objectives to support this concept may include:

- a) Recognize that the Theory of Evolution explains both the universal characteristics of organisms as well as the diversity of life on Earth.
- b) Explain the importance of variation in a population.
- c) Identify sources of genetic variation (e.g., mutation, genetic recombination during meiosis, and sexual reproduction).
- d) Define evolution as a change in allele frequency.
- e) Explain and give examples of natural selection as the primary mechanism of evolution.
- f) Explain how various tools (e.g., fossil record, radiometric dating, gene modification, comparative morphology, etc.) are used to determine the relationships among species.
- g) Interpret the relationships among organisms in a phylogenetic tree.

8) Biology and society impact each other.

Objectives to support this concept may include:

- a) Explain how science and technology impact society, as well as how scientists are influenced by the political, social, economic and cultural influences of the time.
- b) Demonstrate a basic understanding of common biotechnology tools (e.g., Recombinant DNA Technology, restriction enzymes, DNA Fingerprinting, Somatic Cell Nuclear Transfer) and explain how the use of these tools has influenced social, cultural, or political issues.
- c) Examine both sides of conflicting opinions on bioethical issues.

## Appendix E: Exit-Level Course Competencies

### 10. Introduction to Chemistry (One Semester Course)

I. The Scientific Method. The student should be able to demonstrate that:

- 1) Science is a process.
- 2) Science is based on observations made in the physical world (data).
- 3) Hypotheses are made based on these observations.
- 4) Hypotheses are tested creating new data and probably new hypotheses.
- 5) Laws are summary statements of a large number observations.
- 6) Theories are statements that explain observations and predict future observations.
- 7) Theories and Laws are subject to change; that Theories and Laws must be supported by the data.

II. Atoms and the Periodic Table. The student should be able to:

- 1) Apply appropriate units to express various measurements.
- 2) Use the method of dimensional analysis to systematically convert from one unit to another.
- 3) Use the Law of Conservation of Mass and Energy.
- 4) Quantify the three fundamental particles in any atom, isotope, or ion.
- 5) Apply the significance of the electron configuration within an atom or ion and the position of an element on the periodic table.

III. Compounds, Formulas, Reactions, and Equations. The student should be able to:

- 1) Classify elemental, ionic, and covalent substances and relate a systematic name to a formula.
- 2) Recognize various reaction types and construct a balanced equation describing the formation of products from reactants.
- 3) Use a periodic table and a balanced chemical equation to convert (reversibly) between mass to moles of a substance and mole to mole conversions for various changes.
- 4) Apply the concept of limiting reactants and the nature of chemical analysis.
- 5) Construct working Lewis structures for simple covalent compounds. Classify types of chemical bonding.

IV. Behavior of the States of Matter. The student should be able to:

- 1) Use the kinetic-molecular theory to explain the behavior of gases.
- 2) Relate the effect of pressure, volume, temperature, or amount changes as stated by the Ideal Gas Equation.
- 3) Recognize the nature of intermolecular forces of attraction and their effect on the physical properties of substances.
- 4) Predict Hydrogen Bonding and the unique physical properties it manifests in water and other biomolecules.
- 5) Determine the energy transfer involved with varying temperature and changes in state using measured conversion factors.

## Appendix E: Exit-Level Course Competencies

V. Properties of Solutions. The student should be able to:

- 1) Use the concept of intermolecular forces to explain the action of solvation of an ionic or covalent solute.
- 2) Use dimensional analysis to systematically convert from one unit to any other with concentration units as a connection.
- 3) Use the concepts of mass percent, parts per million, molarity, molality, and mole fraction.
- 4) Translate a chemical change in a solution into a net ionic equation which discounts the presence of spectator ions.
- 5) Characterize the simple action of acids and bases and the nature of the pH scale.

VI. Equilibrium, and Oxidation and Reduction. The student should be able to:

- 1) Predict that chemical reactions go to an equilibrium state.
- 2) Assign the oxidation states for each element within a formula.
- 3) Identify oxidation and reduction reactions.
- 4) Identify oxidizing agents and reducing agents.

## Appendix E: Exit-Level Course Competencies

### 5) American Government

The purpose of the American government course at Missouri colleges and universities is to prepare students to be competent citizens who understand and are capable of participating in the political processes of the nation. Upon successful completion of the course, the student will:

1. Understand of the environment of the American political system by examining the political ideologies and theories of democracy that influenced the construction of our system of government.
2. Outline the structure of our government, as set up in the Constitution.
3. Describe the links between citizens and government. In this, they should articulate key concepts about voting, political parties, campaigns, and other forms of political participation.
4. Understand (1) the structure and interactions of the presidency, congress, bureaucracy, and courts and (2) how the institutions are intended to respond to citizen inputs.
5. Understand practices and processes that describe how governmental institutions work and interact to create domestic and foreign policy.

We recognize there will be variation in emphasis by instructor, but the preceding goals, if met, will provide a student who completes the course with a grade of C or better with the minimum level of knowledge that we expect of a competent citizen and of students who enter our upper division courses. At the end of the day, students should walk away with a holistic picture of the varied institutions and practices in our system, which allows them to understand these as solutions, albeit imperfect ones, to problems of governance in this country.

These goals can be met if the content of each course covers the following topics and students are tested on their knowledge of this material.

#### I. The Environment of our System

- 1) Origins of the American System. Students will:
  - a) Define the word “politics.”
  - b) Define “ideology” and its component parts, beliefs and values.
  - c) Identify the key components of three classic ideologies (Classical Conservatism, Classical Liberalism, Classical Socialism).
  - d) Explain what Classic Liberalism is, why it is the “American” ideology, and why it makes the United States unique as the world’s most classically liberal nation.
  - e) Understand the difference between a democracy and a republic  
Understand the contributions of Rousseau, Locke, Montesquieu, and Newton to the American version of democracy.

## Appendix E: Exit-Level Course Competencies

- 2) The Constitution. Students should be able to:
  - a) Understand the weaknesses of our first national government, the Articles of Confederation and why certain leaders felt it was necessary to create a new government (patriots, merchants)
  - b) Understand that the framers of the Constitution were pragmatic politicians who in large part drafted the Constitution to solve practical problems of governance, identify the key parts of the Constitution, both in the main body and the Amendments (the 7 articles and, at a minimum, the first 10 amendments and the Civil War Amendments).
  - c) Identify the major sections of the Missouri Constitution (especially Articles 1-4 and 12).
- 3) Federalism. Students should be able to:
  - a) Define federalism and understand why it was included in the Constitution.
  - b) Describe the clauses in the Constitution relevant to the power of the central government in the state-federal relationship (supremacy clause, full faith and credit, privileges and immunities, elastic, commerce, etc.).
  - c) Describe the clauses in the Constitution relevant to the power of the state governments in the state-federal relationship (enumerated powers, 10<sup>th</sup> amendment, 11<sup>th</sup> amendment, etc.).
  - d) Explain the importance of *McCulloch v. Maryland*.
  - e) Explain the concept of “devolution” in the state-federal relationship.
  - f) Understand the modern relevance of federalism and its implications.

## II. Links between the Government and the Governed

- 1) Political Participation. Students should be able to:
  - a) Define political participation.
  - b) Understand why some people are more likely to participate in politics than others.
  - c) Explain why Americans, in general, participate at lower rates than people in other democratic countries (most nations have very different political party systems).
  - d) Explain why Americans now participate at lower rates than Americans of forty years ago (should include possible explanations as well as the argument that the decline in participation is overblown).
  - e) Understand why some interest groups are more “successful” than others (explain the difference between economic interest groups and public interest groups). Identify the ways in which interest groups influence the policymaking process (lobbying, grassroots lobbying, etc.).
- 2) Public Opinion and the News Media. Students should be able to:
  - a) Explain the role public opinion should play in governing a representative democracy (be conversant with the terms “delegate,” “trustee,” and “politico”).
  - b) Describe the possible flaws in public opinion polling and how to be a careful consumer of such polls (understand sampling, question wording, survey design, margin of error).
  - c) Describe the problems with the coverage of politics by the news media (overemphasis on scandal and sensational events).

## Appendix E: Exit-Level Course Competencies

- d) Explain how politicians use the news media (use of staged events, trial balloons and leaks, extensive PR staff).
  - e) Explain how the news media have changed politics (image over substance).
- 3) Political parties. Students should be able to:
- a) Define a political party and distinguish it from an interest group.
  - b) Explain the functions served by parties in a representative democracy.
  - c) Describe how the Progressive Era reforms and how they weakened parties in the United States.
  - d) Explain the difference between the difference between choosing representatives from single member, simple plurality districts (and states in the case of Senators) and proportional representation.
  - e) Explain why we have a predominantly two
  - f) -party system in the United States.
  - g) Describe the role third parties have historically played in the United States.
- 4) Campaigns. Students should be able to:
- a) Explain the criteria for a good election (turnout, absence of fraud and demagoguery, be informational, influence what government does).
  - b) Analyze recent elections by the criteria for a good election.
  - c) Explain what the Electoral College is and how it works.
  - d) Understand the current state of campaign finance law in the United States (should know the FECA amendments of 1973, Buckley v. Valeo, Bipartisan Campaign Reform Act, McConnell v. FEC, more recent developments).

### III. Institutions and Issues

Congress. Students should be able to:

- a) Explain the local orientation of members of Congress (which means that they should know Congress is better at serving local interests than the national interest and why that is the case).
  - b) Describe the structure of the House and Senate.
  - c) Understand the process of how a bill becomes a law.
  - d) Know that the passage of the annual budget is Congress's biggest job and know how that process works.
- 2) Executive Branch. Students should be able to:
- a) Know who can legally become president and contrast it with the far more limited (demographically) group of people who have actually served as president.
  - b) List the functions, or jobs, of the president.
  - c) Distinguish between the formal (constitutional) and informal (evolved) powers of the president.
  - d) Explain why the president is much more effective as a foreign policy leader than a domestic policy leader.
- Understand the characteristics and functions of the bureaucracy, as well as the manner in which it fits into a democratic society.

## Appendix E: Exit-Level Course Competencies

- 3) The Courts. Students should be able to:
  - a) Explain the primary function (adjudicating) and primary objective (protect civil liberties) of courts.
  - b) Answer important questions about the design of the federal judiciary through an understanding of Hamilton's Federalists papers on the subject (why permanent tenure in office, why selection by the president and confirmation by the senate, why a small, collegial court).
  - c) Describe the design of the federal judiciary (district, circuit, supreme courts); understand how the Supreme Court functions.
  - d) Define judicial review and be able to explain the importance of Marbury v. Madison.
  - e) Understand the factors which influence Supreme Court decisions (the Constitution, the law, personal views of the justices, public opinion).
  - f) Know the limits on the power of the Supreme Court (the president, the Congress, the Constitution, judicial restraint).
  - g) Explain the difference between civil rights and civil liberties.
  - h) Define selective incorporation.
  - i) Identify the constitutional amendments that bear on our most important right, voting (15, 17, 19, 23, 24, 26).
  
- 4) Policy. Students should be able to:
  - a) Explain what type of economic system the United States has.
  - b) Explain why the government is involved in regulating the economy.
  - c) Explain the difference between fiscal and economic policy.
  - d) List the foreign policy goals of the United States.
  - e) Describe the process of making foreign policy in a democracy.
  - f) Differentiate between the country's military and economic tools for making foreign policy.
  - g) Understand the ways in which political institutions and the attitudes of the general public interact in the production of both foreign and domestic policy.

## Appendix E: Exit-Level Course Competencies

### 12. Introduction to Psychology

The American Psychological Association's *Guidelines for the Undergraduate Psychology Major* was a primary resource in the development of these competencies. For all of the following, students should:

#### I. Knowledge Base of Psychology

- 1) Explain why psychology is a science
- 2) Identify the components of current perspectives in psychology and trace their historical roots.
- 3) Gain awareness of ongoing themes in the field of psychology, for example:
  - a) nature and nurture
  - b) the interaction of mind and body
  - c) free will and determinism

#### II. Research Methods in Psychology

- 1) Distinguish between major methods of psychological research.
- 2) Recite steps in conducting psychological research.
- 3) Identify and critique research reported in popular literature.
- 4) Recognize potential sources of bias.
- 5) Recognize common descriptive statistics used in psychology.
- 6) Identify ethical concerns in conducting psychological research.

#### III. Critical Thinking Skills in Psychology

- 1) Identify limitations of generalizing research.
- 2) Challenge claims that arise from myth, stereotype, or untested assumptions by using scientific principles and evidence.

#### IV. Application of Psychology

- 1) Describe major applied areas of psychology.
- 2) Identify practical applications of psychology.
- 3) Identify applications of psychology as applied to areas such as:
  - a) health and medicine
  - b) environment
  - c) education
  - d) public policy

#### V. Sociocultural and International Awareness

- 1) Recognize that psychology is an international discipline.
- 2) Provide examples of how interaction among diverse people can challenge conventional understanding of psychological processes and behavior.

## **Appendix E: Exit-Level Course Competencies**

### **13. US History to/from 1877**

These exit competencies are applicable for Introductory US History Courses, to or from 1877. Upon successful completion of the course, students should be able to:

- 1) Understand significant trends, movements, and events in American history.
- 2) Identify and interpret primary and secondary sources, placing them in the context of their time and place and assessing them for reliability and point of view.
- 3) Formulate historical arguments based on specific evidence from the sources
- 4) Demonstrate an understanding of historical chronology and respect the distinctive integrity of the past.
- 5) Appreciate the multiple political, social, economic, and cultural dimensions of the human experience.
- 6) Use historical analysis to evaluate cause and effect, comparisons and contrasts, and patterns of continuity and change over time.

## Appendix F: Alignment Matrix Example—Freshman Composition Sequence

### 42-Hour Block General Education Skill Areas

#### a. Communicating

State-Level Goal: To develop students' effective use of the English language and quantitative and other symbolic systems essential to their success in school and in the world. Students should be able to read and listen critically and to write and speak with thoughtfulness, clarity, coherence, and persuasiveness.

Illustrative General Education Competency	First Course: Freshman Composition Sequence
analyze and evaluate their own and others' speaking and writing; conceive of writing as a recursive process that involves many strategies, including generating material, evaluating sources when used, drafting, revising, and editing.	1.g: Analyze and evaluate their own and others' speaking and writing 2.d: Communicate with few errors in grammar, usage, diction, and mechanics 3.d: Select and use appropriate patterns of organization for subject audience, and purpose <b>4—Understand and use a recursive writing process to develop strategies for generating, revising, editing, and proofreading texts</b>
make formal written and oral presentations employing correct diction, syntax, usage, grammar, and mechanics.	<b>2—Compose sound and effective sentences:</b> 2.a: Use a variety of sentence structures correctly; 2.b: Understand and employ subordination and coordination to express ideas 2.c: Avoid major sentence-level errors such as fragments, comma splices, fused sentences, etc. 2.d: Communicate with few errors in grammar, usage, diction, and mechanics <b>3—Compose unified, coherent, and developed paragraphs:</b> 3.a: Write focused topic sentences 3.b: Maintain focus and unity of paragraph 3.c: Use details, examples, and facts to develop the paragraph's main idea 3.d: Select and use appropriate patterns of organization for subject audience, and purpose 3.e: Use transitional devices 3.f: Employ a appropriate, developed, and wide-ranging vocabulary
focus on a purpose (e.g., explaining, problem solving, argument) and vary approaches to writing and speaking based on that purpose.	1.c: Identify purpose, main idea, and supporting evidence 1.a: Maintain focus and unity of paragraph 3.d: Select and use appropriate patterns of organization for subject audience, and purpose <b>5: Produce rhetorically effective discourse for subject, audience, and purpose:</b> 5.a: Organize a logically structured essay that includes an introduction, body, and conclusion 5.b: Develop an essay's controlling idea (thesis or claim) with a balance of generalizations and adequate specific, illustrative details 5.c: Use transitional devices to achieve coherency, unity, and focus 5.d: Use a variety of rhetorical strategies to analyze and respond to topics and texts 5.e: Support position using relevant evidence and a reasoned argument 5.f: Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes.
respond to the needs of different venues and audiences and choose words for appropriateness and effect.	5.d: Use a variety of rhetorical strategies to analyze and respond to topics and texts 5.f: Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes.
communicate effectively in groups by listening, reflecting, and responding appropriately and in context.	1.g: Analyze and evaluate their own and others' speaking and writing 1.h: Communicate effectively in groups by listening, reflecting, and responding appropriately

## Appendix F: Alignment Matrix Example—Freshman Composition Sequence

Illustrative General Education Competency	First Course: Freshman Composition Sequence
use mathematical and statistical models, standard quantitative symbols, and various graphical tactics to present information with clarity, accuracy, and precision.	

### b. Higher-Order Thinking

State-Level Goal: To develop students' ability to distinguish among opinions, facts, and inferences; to identify underlying or implicit assumptions; to make informed judgments; and to solve problems by applying evaluative standards.

3)

Illustrative General Education Competency	First Course: Freshman Composition Sequence
recognize the problematic elements of presentations of information and argument and to formulate diagnostic questions for resolving issues and solving problems.	1.d: Distinguish between fact and opinion and recognize textual biases 1.i: Formulate diagnostic questions for resolving issues and identify possible solutions 6.c: Evaluate and analyze information for credibility and accuracy
use linguistic, mathematical or other symbolic approaches to describe problems, identify alternative solutions, and make reasoned choices among those solutions.	1.i: Formulate diagnostic questions for resolving issues and identify possible solutions 1.j: Show an awareness of the different modes of comprehension, as well as expression, required for effective oral communication, as opposed to written. 5.d: Use a variety of rhetorical strategies to analyze and respond to topics and texts 5.e: Support position using relevant evidence and a reasoned argument <b>6—Demonstrate effective research and information literacy skills.</b> 6.a: Formulate a [manageable] research question 6.b: Access appropriate sources 6.c: Evaluate and analyze information for credibility and accuracy 6.d: Synthesize information from a variety of sources and apply the synthesis to complex situations and problems 6.e: Cite primary and secondary sources using appropriate documentation style such as MLA, Chicago Manual, APA, etc.
analyze and synthesize information from a variety of sources and apply the results to resolving complex situations and problems.	<b>6—Demonstrate effective research and information literacy skills.</b> 6.a: Formulate a [manageable] research question 6.b: Access appropriate sources 6.c: Evaluate and analyze information for credibility and accuracy 6.d: Synthesize information from a variety of sources and apply the synthesis to complex situations and problems 6.e: Cite primary and secondary sources using appropriate documentation style such as MLA, Chicago Manual, APA, etc.
defend conclusions using relevant evidence and reasoned argument.	<b>5—Produce rhetorically effective discourse for subject, audience, and purpose:</b> 5.a: Organize a logically structured essay that includes an introduction, body, and conclusion 5.b: Develop an essay's controlling idea (thesis or claim) with a balance of generalizations and adequate specific, illustrative details 5.c: Use transitional devices to achieve coherency, unity, and focus 5.d: Use a variety of rhetorical strategies to analyze and respond to topics and texts 5.e: Support position using relevant evidence and a reasoned argument 5.f: Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes. <b>6—Demonstrate effective research and information literacy skills.</b> 6.a: Formulate a [manageable] research question 6.b: Access appropriate sources

## Appendix F: Alignment Matrix Example—Freshman Composition Sequence

Illustrative General Education Competency	First Course: Freshman Composition Sequence
	6.c: Evaluate and analyze information for credibility and accuracy 6.d: Synthesize information from a variety of sources and apply the synthesis to complex situations and problems 6.e: Cite primary and secondary sources using appropriate documentation style such as MLA, Chicago Manual, APA, etc.
reflect on and evaluate their critical-thinking processes.	1.d: Distinguish between fact and opinion and recognize textual biases 1.e: Distinguish between general and specific information 1.g: Analyze and evaluate their own and others' speaking and writing 1.i: Formulate diagnostic questions for resolving issues and identify possible solutions <b>5—Produce rhetorically effective discourse for subject, audience, and purpose:</b> 5.a: Organize a logically structured essay that includes an introduction, body, and conclusion 5.b: Develop an essay's controlling idea (thesis or claim) with a balance of generalizations and adequate specific, illustrative details 5.c: Use transitional devices to achieve coherency, unity, and focus 5.d: Use a variety of rhetorical strategies to analyze and respond to topics and texts 5.e: Support position using relevant evidence and a reasoned argument 5.f: Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes.

### c. Managing Information

State-Level Goal: To develop students' abilities to locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic, and other sources in preparation for solving problems and making informed decisions.

Illustrative General Education Competency	First Course: Freshman Composition Sequence
access and/or generate information from a variety of sources, including the most contemporary technological information services.	6.b: Access appropriate sources
evaluate information for its currency, usefulness, truthfulness, and accuracy.	6.c: Evaluate and analyze information for credibility and accuracy
organize, store, and retrieve information efficiently.	6.b: Access appropriate sources
reorganize information for an intended purpose, such as research projects.	6.d: Synthesize information from a variety of sources and apply the synthesis to complex situations and problems
present information clearly and concisely, using traditional and contemporary technologies.	1.j: Show an awareness of the different modes of comprehension, as well as expression, required for effective oral communication, as opposed to written.

### d. Valuing

State-Level Goal: To develop students' abilities to understand the moral and ethical values of a diverse society and to understand that many courses of action are guided by value judgments about the way things ought to be. Students should be able to make informed decisions through identifying personal values and the values of others and through understanding how such values develop. They should be able to analyze the ethical implications of choices made on the basis of these values.

## Appendix F: Alignment Matrix Example—Freshman Composition Sequence

Illustrative General Education Competency	First Course: Freshman Composition Sequence
compare and contrast historical and cultural ethical perspectives and belief systems.	n/a
utilize cultural, behavioral, and historical knowledge to clarify and articulate a personal value system.	n/a
recognize the ramifications of one's value decisions on self and others.	n/a
recognize conflicts within and between value systems and recognize and analyze ethical issues as they arise in a variety of contexts.	n/a
consider multiple perspectives, recognize biases, deal with ambiguity, and take a reasonable position.	1.d: Distinguish between fact and opinion and recognize textual biases 1.g: Analyze and evaluate their own and others' speaking and writing 6.c: Evaluate and analyze information for credibility and accuracy

### 42-Hour Block General Education Knowledge Areas

#### a. Social and Behavioral Sciences

State-Level Goal: To develop students' understanding of themselves and the world around them through study of content and the processes used by historians and social and behavioral scientists to discover, describe, explain, and predict human behavior and social systems. Students must understand the diversities and complexities of the cultural and social world, past and present, and come to an informed sense of self and others. (Students must fulfill the state statute requirements for the United States and Missouri constitutions.)

Illustrative General Education Competency	First Course: Freshman Composition Sequence
explain social institutions, structures, and processes across a range of historical periods and cultures.	n/a
develop and communicate hypothetical explanations for individual human behavior within the large-scale historical and social context.	n/a
draw on history and the social sciences to evaluate contemporary problems.	n/a
describe and analytically compare social, cultural, and historical settings and processes other than one's own.	n/a
articulate the interconnectedness of people and places around the globe.	n/a
describe and explain the constitutions of the United States and Missouri .	n/a

#### b. Humanities and Fine Arts

State-Level Goal: To develop students' understanding of the ways in which humans have addressed their condition through imaginative work in the humanities and fine arts; to deepen their understanding of how that imaginative

## Appendix F: Alignment Matrix Example—Freshman Composition Sequence

process is informed and limited by social, cultural, linguistic, and historical circumstances; and to appreciate the world of the creative imagination as a form of knowledge.

Illustrative General Education Competency	First Course: Freshman Composition Sequence
describe the scope and variety of works in the humanities and fine arts (e.g., fine and performing arts, literature, speculative thought).	n/a
explain the historical, cultural, and social contexts of the humanities and fine arts.	n/a
identify the aesthetic standards used to make critical judgments in various artistic fields.	n/a
develop a plausible understanding of the differences and relationships between formal and popular culture.	n/a
articulate a response based upon aesthetic standards to observance of works in the humanities and fine arts.	n/a

### c. Mathematics

State-Level Goal: To develop students' understanding of fundamental mathematical concepts and their applications. Students should develop a level of quantitative literacy that would enable them to make decisions and solve problems and which could serve as a basis for continued learning. (The mathematics requirement for general education should have the same prerequisite(s) and level of rigor as college algebra.)

Illustrative General Education Competency	First Course: Freshman Composition Sequence
describe contributions to society from the discipline of mathematics.	n/a
recognize and use connections within mathematics and between mathematics and other disciplines.	n/a
read, interpret, analyze, and synthesize quantitative data (e.g., graphs, tables, statistics, survey data) and make reasoned estimates.	6.c: Evaluate and analyze information for credibility and accuracy
formulate and use generalizations based upon pattern recognition.	n/a
apply and use mathematical models (e.g., algebraic, geometric, statistical) to solve problems.	n/a

### d. Life and Physical Sciences

State-Level Goal: To develop students' understanding of the principles and laboratory procedures of life and physical sciences and to cultivate their abilities to apply the empirical methods of scientific inquiry. Students

## Appendix F: Alignment Matrix Example—Freshman Composition Sequence

should understand how scientific discovery changes theoretical views of the world, informs our imaginations, and shapes human history. Students should also understand that science is shaped by historical and social contexts.

<b>Illustrative General Education Competency</b>	<b>First Course: Freshman Composition Sequence</b>
explain how to use the scientific method and how to develop and test hypotheses in order to draw defensible conclusions.	n/a
evaluate scientific evidence and argument.	n/a
describe the basic principles of the physical universe.	n/a
describe concepts of the nature, organization, and evolution of living systems.	n/a
explain how human choices affect the earth and living systems.	n/a

## AGENDA ITEM SUMMARY

### AGENDA ITEM

Distribution of Community College Funds  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

The process for making state aid payments to community colleges in FY 2008 will be monthly. All FY 2008 state aid appropriations are subject to a three percent governor's reserve.

The total FY 2008 state aid appropriation for community colleges is \$142,123,963. The amount available to be distributed (appropriation less the three percent governor's reserve) is \$137,860,244.

The payment schedule of state aid distributions for April and May 2008 is summarized below.

State Aid (excluding M&R) – GR portion	\$ 14,776,522
State Aid – lottery portion	989,422
Workforce Preparation – GR portion	2,418,766
Workforce Preparation – lottery portion	215,398
Out-of-District Programs	190,118
Technical Education	3,305,810
Workforce Preparation for TANF Recipients	265,794
Maintenance and Repair	<u>767,625</u>
TOTAL	\$ 22,929,455

The total distribution of state higher education funds to community colleges during the period April through May, 2008 is \$22,929,455. The total FY 2008 distribution for July through May, 2008 is \$126,632,791.

### STATUTORY REFERENCE

Section 163.191, RSMo

### RECOMMENDED ACTION

Assigned to Consent Calendar

### ATTACHMENT

None

Coordinating Board for Higher Education  
June 12, 2008

## **AGENDA ITEM SUMMARY**

### **AGENDA ITEM**

Academic Program Actions  
Coordinating Board for Higher Education  
June 12, 2008

### **DESCRIPTION**

All program actions that have occurred since the April 10, 2008, Coordinating Board meeting are reported in this consent calendar item.

### **STATUTORY REFERENCE**

Sections 173.005.2(1), 173.005.2(8), 173.030(1), and 173.030(2), RSMo, Statutory requirements regarding CBHE approval of new degree programs.

### **RECOMMENDED ACTION**

Assigned to Consent Calendar

### **ATTACHMENT**

Academic Program Actions

## ACADEMIC PROGRAM ACTIONS

### I. Programs Discontinued

#### Northwest Missouri State University

1. Current Program:

BSED, Vocational Education  
Agricultural Education (9-12)  
Family and Consumer Sciences (9-12)

Approved Change:

Delete program and options.

Program as Changed:

BSED, Vocational Education (Deleted)  
Agricultural Education (9-12) (Deleted)  
Family and Consumer Sciences (9-12) (Deleted)

2. Current Program:

BSED, Vocational Agriculture

Approved Changes:

Delete program.

Program as Changed:

BSED, Vocational Agriculture (Deleted)

3. Current Program:

MSED, Educational Leadership P-12 (*Off-site delivery in Iowa*)

Approved Change:

Delete program.

Program as Changed:

MSED, Educational Leadership P-12 (*Off-site delivery in Iowa*) (Deleted)

#### University of Missouri – St. Louis

Current Program:

GRCT, Managerial Economics

Approved Change:

Delete program.

Program as Changed:

GRCT, Managerial Economics (Deleted)

**II. Programs and Options Placed on Inactive Status**

No actions of this type have been taken since the last board meeting.

**III. Approved Changes in Academic Programs**

**Metropolitan Community College – Business and Technology**

1. Current Program:

AAS, Engineering Technology  
Civil Engineering Technology  
Mechanical/Manufacturing Engineering Technology

Approved Change:

Add options in Computer Electronics and Electronics.

Program as Changed:

AAS, Engineering Technology  
Civil Engineering Technology  
Mechanical/Manufacturing Engineering Technology  
Computer Electronics  
Electronics

2. Current Program:

AAS, Industrial Technology  
Bricklayer  
Construction Carpentry  
Construction Cement Masons  
Construction Ironworking  
Construction Laborers  
Electric Utility Line Technician  
Electronics Engineering Technology  
Electronics Technology  
Glaziers  
Heating, Ventilation, & Air Conditioning  
Industrial Electrical  
Industrial Maintenance  
Inside Wiring  
Millwright  
Painters  
Plumbing  
Sheet Metal  
Stationary Engineer

Approved Changes:

Add options of Lineman Technician/Cable Splicer, Industrial Maintenance Electrician, Industrial Mechanic, Industrial Welder, and Industrial Pipefitter/Sprinkler Fitter.

Program as Changed:

AAS, Industrial Technology  
Bricklayer  
Construction Carpentry  
Construction Cement Masons  
Construction Ironworking  
Construction Laborers  
Electric Utility Line Technician  
Electronics Engineering Technology  
Electronics Technology  
Glaziers  
Heating, Ventilation, & Air Conditioning  
Industrial Electrical  
Industrial Maintenance  
Industrial Maintenance Electrician  
Industrial Mechanic  
Industrial Pipefitter/Sprinkler Fitter  
Industrial Welder  
Inside Wiring  
Lineman Technician/Cable Splicer  
Millwright  
Painters  
Plumbing  
Sheet Metal  
Stationary Engineer

**Missouri University of Science and Technology**

1. Current Program:

MS, Engineering Management  
General  
Public Works

Approved Change:

Add two graduate certificates (GRCT) in Human Systems Integration and Quality Engineering.

Program as Changed:

MS, Engineering Management  
General  
Public Works

GRCT, Human Systems Integration  
GRCT, Quality Engineering

2. Current Program:  
MS, Geological Engineering  
Hazardous Waste Engineering and Science

Approved Change:  
Add graduate certificate (GRCT) in Military Geological Engineering.

Program as Changed:  
MS, Geological Engineering  
Hazardous Waste Engineering and Science  
GRCT, Military Geological Engineering

**Northwest Missouri State University**

1. Current Program:  
BSED, Chemistry

Approved Change:  
Change title of degree to Chemistry (9-12).

Program as Changed:  
BSED, Chemistry (9-12)

2. Current Program:  
BSED, Physics

Approved Change:  
Change title of degree to Physics (9-12).

Program as Changed:  
BSED, Physics (9-12).

3. Current Program:  
BSED, Family and Consumer (Birth-12; 9-12)

Approved Change:  
Change title of degree to Family and Consumer (Birth-12).

Program as Changed:  
BSED, Family and Consumer (Birth-12)

4. Current Program:  
MSED, Teaching Secondary  
English  
Health and Physical Education

Approved Changes:  
Change title of option in English to Teaching English.  
Delete option in Health and Physical Education.

Program as Changed:  
MSED, Teaching Secondary  
Teaching English  
Health and Physical Education (Deleted)

### **Ozarks Technical Community College**

Current Program:  
AA  
Agriculture  
Biology  
Business  
Chemistry  
Criminal Justice  
English  
Environmental Science  
Mathematics  
Psychology  
Social Sciences  
Spanish

Approved Change:  
Delete all options.

Program as Changed:  
AA  
Agriculture (deleted)  
Biology (deleted)  
Business (deleted)  
Chemistry (deleted)  
Criminal Justice (deleted)  
English (deleted)  
Environmental Science (deleted)  
Mathematics (deleted)  
Psychology (deleted)  
Social Sciences (deleted)  
Spanish (deleted)

**Southeast Missouri State University**

1. Current Program:

MBA, Business Administration  
Accounting  
Environmental Management  
Financial Management  
General Management  
Health Administration  
Industrial Management  
International Business

Approved Change:

Add option in Entrepreneurship.

Program as Changed:

MBA, Business Administration  
Accounting  
Entrepreneurship  
Environmental Management  
Financial Management  
General Management  
Health Administration  
Industrial Management  
International Business

**University of Central Missouri**

Current Program:

BSE, Secondary Education  
Biology  
Business Teacher Education (functional major)  
Business Teacher Education (major)  
Chemistry  
Earth Science  
English (functional major)  
English (major)  
Mathematics (functional major)  
Mathematics (major)  
Physics  
Social Studies  
Speech Communication & Theater  
Technology Education  
Vocational Agricultural Education  
Vocational Family and Consumer Science

Approved Changes:

Delete options in Business Teacher Education (functional major) and Mathematics (functional major). Remove the word “major” from the options in Business Teacher Education (major) and Mathematics (major).

Program as Changed:

BSE, Secondary Education  
Biology  
Business Teacher Education  
Chemistry  
Earth Science  
English (functional major)  
English (major)  
Mathematics  
Physics  
Social Studies  
Speech Communication & Theater  
Technology Education  
Vocational Agricultural Education  
Vocational Family and Consumer Science

**University of Missouri – Columbia**

Current Program:

BSED, Secondary Education  
Art Education  
Biology  
Business & Marketing Education  
Chemistry  
Earth Science  
General Science  
Language Arts  
Mathematics Education  
Music Education  
Physics  
Social Studies

Approved Change:

Delete option in Business & Marketing Education.

Program as Changed:

BSED, Secondary Education  
Art Education  
Biology  
Business & Marketing Education (Deleted)

Chemistry  
Earth Science  
General Science  
Language Arts  
Mathematics Education  
Music Education  
Physics  
Social Studies

**University of Missouri – St. Louis**

Current Programs:

MS, Physiological Optics  
Ph.D., Physiological Optics

Approved Changes:

Change title of both degrees to Vision Science.

Programs as Changed:

MS, Vision Science  
Ph.D., Vision Science

**IV. Received and Reviewed Changes in Programs (Independent Colleges and Universities)**

No actions of this type have been taken since the last board meeting.

**V. Program Changes Requested and Not Approved**

No actions of this type have been taken since the last board meeting.

**VI. New Programs Approved**

**Missouri State University**

BS, Child and Family Development (*Off-site at the West Plains and Mountain Grove campuses.*)

**Northwest Missouri State University**

**BS, English**

**Ozarks Technical Community College**

AA, General Studies (*Off-site at the Waynesville Education Center in Waynesville, MO.*)

**University of Central Missouri**

1. BS, Biochemistry
2. BS, Forensic Chemistry
3. BSBA, Management (*Continued approval for off-site delivery at UCM's Summit Center in Lee's Summit, MO.*)

**VII. New Programs Received and Reviewed (Independent Colleges and Universities)**

**Fontbonne University**

1. MBA, Business Administration
2. MM, Management

*(Both programs above will be delivered at the Boeing Company campuses in Berkeley and Saint Charles.)*

**VIII. Programs Withdrawn**

**Crowder College**

AA, General Studies (*Off-site delivery in Webb City.*)

**IX. New Programs Not Approved**

No actions of this type have been taken since the last board meeting.

## **AGENDA ITEM SUMMARY**

### **AGENDA ITEM**

Proprietary School Certification Actions and Reviews  
Coordinating Board for Higher Education  
June 12, 2008

### **DESCRIPTION**

All program actions that have occurred since the April 10, 2008 Coordinating Board meeting are reported in this consent item. In addition, the report includes information concerning the recertification of existing institution, anticipated actions on applications to establish new postsecondary education institutions, and exemptions from the department's certification requirements.

### **STATUTORY REFERENCE**

Sections 173.600 through 173.618, RSMo, Regulation of Proprietary Schools

### **RECOMMENDED ACTION**

Assigned to Consent Calendar

### **ATTACHMENT**

Proprietary School Certification Program Actions and Reviews

## Coordinating Board for Higher Education

### Proprietary School Certification Program Actions and Reviews

#### ***Certificates of Approval Issued (Authorization for Instructional Delivery)***

None

#### ***Certificates of Approval Issued (Authorization Only to Recruit Students in Missouri)***

None

#### ***Applications Pending Approval (Annual Recertification)***

The following is a listing of schools that are certified to operate by the Coordinating Board for Higher Education for the 2007-2008 certification year, which ends June 30, 2008. The listed schools have submitted applications for recertification and those applications are under review by the Proprietary School Certification Program staff. Pending satisfactory response to the staff review, it is expected that all listed schools will receive a certificate of approval for the 2008-2009 certification year, beginning on July 1, 2008.

#### *Authorization for Instructional Delivery*

A Gathering Place-Wellness Ed. Center	Maryland Heights, MO
Advanced Dental Careers*	Ballwin, MO
Allied College*	Maryland Heights, MO
American College of Technology#	Saint Joseph, MO
American Trade School	Overland, MO
American Truck Training	Kansas City, MO
American Woodworking Academy	Fenton, MO
Aviation Institute of Maintenance	Kansas City, MO
Baker University**	Florissant, MO
Baker University**	Lathrop, MO
Baker University**	Lee's Summit, MO
Baker University**	Peculiar, MO
Baker University**	Platte City, MO
Baker University**	St. Joseph, MO
Barbizon School of Clayton	Clayton, MO
Bellevue University**	Kansas City, MO
Broadcast Center	St. Louis, MO
Brunswick School of Auctioneering#	Salisbury, MO
Bryan College	Springfield, MO
C-1 Truck Driver Training	Strafford, MO
Central Missouri Dental Assisting	Warrensburg, MO
Cherry Hill Dental Program of Dental Assisting	Columbia, MO

Colorado Technical University**	North Kansas City, MO
ComSkill Learning Center of Kansas City	Kansas City, MO
Concorde Career College	Kansas City, MO
Court Reporting Academy	Smithville, MO
Daruby School*	St. Louis, MO
DeVry University**	Kansas City, MO
DeVry University**	Kansas City, MO
DeVry University**	St. Louis, MO
Drake University**	Kansas City, MO
Elements of Wellness School of Massage	St. Louis, MO
Everest College**	Earth City, MO
Everest College	Springfield, MO
Foley-Belsaw Institute#	Kansas City, MO
Global University#	Springfield, MO
Graceland University**	Independence, MO
Graceland University**	Trenton, MO
Grantham University#	Kansas City, MO
Guadalupe Culinary Arts Institute	Kansas City, MO
H & R Block Eastern Tax Service*	Kansas City, MO
Heartland Horseshoeing School	Lamar, MO
Heritage College**	Kansas City, MO
Hickey College	St. Louis, MO
High Tech Institute**	Kansas City, MO
Hi-Tech Charities	St. Louis, MO
IHM Health Studies Center	St. Louis, MO
International Institute of Metro St. Louis	St. Louis, MO
International School of Professional Bartending	Kansas City, MO
International Sommelier Guild**	St. Louis, MO
ITT Technical Institute**	Arnold, MO
ITT Technical Institute	Earth City, MO
ITT Technical Institute**	Kansas City, MO
Jackson Hewitt Tax School	Warrenton, MO
John Thomas College of Naturopathic Medicine	St. Charles, MO
Kansas City Center/Montessori Education	Kansas City, MO
Lake Area Dental Assisting School	Hermitage, MO
Laurel Institute for Dental Assistants	St. Peters, MO
L'Ecole Culinaire	St. Louis, MO
Lesley University**	Blue Springs, MO
Lesley University**	Columbia, MO
Malone College**	Kansas City, MO
Massage Therapy Institute of Missouri	Columbia, MO
Massage Therapy Training Institute	Kansas City, MO
MERS/Missouri Goodwill Industries*	St. Louis, MO
Metro Business College*	Cape Girardeau, MO
Mid-America Dental Careers	Columbia, MO
MidAmerica Nazarene University**	Kansas City, MO

Midwest Institute*	Kirkwood, MO
Midwest Institute of Natural Healing	Kansas City, MO
Midwestern Training Center	Hazelwood, MO
Missouri Auction School	Grandview, MO
Missouri College	St. Louis, MO
Missouri Montessori Teacher Education Program	Chesterfield, MO
Missouri School of Dog Grooming	St. Louis, MO
Missouri Taxidermy Institute	Linn Creek, MO
Missouri Tech	St. Louis, MO
Missouri Welding Institute, Inc.	Nevada, MO
Montessori Training Center of St. Louis	St. Louis, MO
MVC Computer & Business School	Arnold, MO
National American University**/**	Independence, MO
New Horizons Computer Learning Center	Springfield, MO
NOVA Southeastern University**	Kansas City, MO
NOVA Southeastern University**	Earth City, MO
Nutrition Institute of America#	Kansas City, MO
Nu-Way Truck Driver Training Centers	St. Louis, MO
Olivet Nazarene University**/#	Bourbonnais, IL
On-Line Training Center	Ferguson, MO
Orler School of Massage Therapy Technology	Joplin, MO
Ottawa University**	Lee's Summit, MO
Patricia Stevens College	St. Louis, MO
Petropolis Academy of Grooming & Training	Chesterfield, MO
Pinnacle Career Institute*	Kansas City, MO
Premier Knowledge Solutions, Inc.	St. Louis, MO
Professional Massage Training Center	Springfield, MO
Rescue College#	Kansas City, MO
Sanford-Brown College*	Fenton, MO
School of Massage Arts	Nixa, MO
Show Me The Road Truck Driving School	Matthews, MO
Skyline Aeronautics	Chesterfield, MO
Southern Missouri Truck Driving School	Malden, MO
St. Charles Flying Service	St. Charles, MO
St. Louis College of Health Careers*	St. Louis, MO
Stoddard County Career Learning Center	Dexter, MO
TechSkills	St. Louis, MO
The Bartending Institute	St. Louis, MO
The Ding King Training Institute	Ozark, MO
The Healing Arts Center	Maplewood, MO
The Tom Rose School	High Ridge, MO
Travel Career Academy	Springfield, MO
University of Mary**	Kansas City, MO
University of Phoenix**	Kansas City, MO
University of Phoenix**	Springfield, MO
University of Phoenix**	Des Peres, MO

Urban League Business Training Center	St. Louis, MO
Vatterott College*	Berkeley, MO
Vatterott College**	St. Joseph, MO
W.T.I. Joplin Campus	Joplin, MO
Westwind CDL Training Center	Cuba, MO
Witte Truck Driving School	Troy, MO

Authorization Only to Recruit Students

At-Home Professions#	Fort Collins, CO
DeVry University	Phoenix, AZ
Lincoln College of Technology*	Indianapolis, IN
Nashville Auto Diesel College	Nashville, TN
National American Univ-Distance Learning#	Rapid City, SD
Redstone College	Broomfield, CO
Spartan College of Aeronautics & Technology	Tulsa, OK
Tulsa Welding School	Tulsa, OK
Universal Technical Institute*	Phoenix, AZ
Universal Technical Institute	Avondale, AZ
Universal Technical Institute	Glendale Heights, IL
Universal Technical Institute	Houston, TX
University of Phoenix Online#	Phoenix, AZ
Westwood College*	Denver, CO
Westwood College*	Woodridge, IL
Wyoming Technical Institute*	Laramie, WY

- \* Denotes main campus of a multi-campus system.
- \*\* Denotes a Missouri location for an institution based outside of the state.
- # Denotes an institution that offers primarily distance education programs.

As an additional note, there are three out-of-state public institutions operating at sites in the state of Missouri. Per the requirements outlined in last year’s higher education omnibus bill, these institutions will become exempt from the proprietary school certification requirements and will be subject to the same program approval requirements as Missouri public institutions. These institutions become exempt from the proprietary school certification requirements on July 1, 2008 and must apply for CBHE approval of their existing programs. The institutions will be required to meet the requirements set forth in the CBHE’s *Policy for Review of Academic Program Proposals*. These out-of-state institutions and the sites at which they operate are listed below:

Indian Hills Community College	Unionville, MO
Pittsburg State University	Carthage, MO
Pittsburg State University	Nevada, MO
Southern Illinois University	St. Louis, MO
Southern Illinois University	Arnold, MO

***Applications Pending Approval (Authorization for Instructional Delivery)***

ComputerTraining.com  
Kansas City, Missouri

This for-profit institution is proposing to offer a six-month certificate program in Microsoft networking technology that includes a focus on career transition. The school's objective is to help students "find rewarding careers in the Information Technology industry (IT) through successful, instructor-led education and personal job search consultation." This school is not accredited.

St. Louis Institute of Technology  
St. Louis, Missouri

This for-profit, single proprietor school is proposing to offer a 24-week, nondegree carpentry program consisting of eight modules. The program "is designed to meet all the needs of an entry level carpenter in the building trades." This school is not accredited.

***Applications Pending Approval (Authorization Only to Recruit Students)***

Herbert Armstrong College  
Edmond, Oklahoma

This not-for-profit school is owned by the Philadelphia Church of God and offers a combination of two-year and four-year nondegree programs in theology, liberal arts, and applied arts and sciences. "Through its curriculum, extracurricular activities and work program, it strives to prepare students for worthwhile service to God and humanity." This school is not accredited.

***Exemptions Granted***

Forerunner School of Ministry  
Kansas City, Missouri

This school, which is not accredited, is the educational and training division of the larger not-for-profit organization known as Friends of the Bridegroom, Inc., also located in Kansas City, Missouri. Forerunner School of Ministry offers theologically based, nondegree programs ranging from one year to four years in length. The school was granted exemption as "a not for profit school owned, controlled and operated by a bona fide religious or denominational organization which offers no programs or degrees and grants no degrees or certificates other than those specifically designated as theological, bible, divinity or other religious designation."

Maranatha College  
Marceline, Missouri

This school offers a theological certificate program that generally requires two years to complete. The school was granted exemption as "a not for profit school owned, controlled and operated by a bona fide religious or denominational organization which

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offers no programs or degrees and grants no degrees or certificates other than those specifically designated as theological, bible, divinity or other religious designation.”  
The school is not accredited.

### ***Schools Closed***

Adlard School of Dental Assisting  
Independence, Missouri

This for-profit school offered a short-term, nondegree dental assisting program in an active dental clinic using an accelerated 12 week format of weekend or evening attendance. This school was not accredited. When the school failed to submit recertification materials for the 2008-09 certification year, the department sent a certified letter notifying the school of closure requirements. The correspondence was returned to sender with a postal note indicating the address of the recipient is no longer current and a forwarding address is not available. Program staff is continuing to work to ensure the school closure is consistent with certification program requirements.

Careers in Court Reporting  
Independence, Missouri

This for-profit, single proprietor school was approved to offer a 130 week nondegree program in court reporting. Correspondence indicates, however, the school was not opened because of financial difficulties. The school had been approved to train court reporters for a variety of fields, including freelance court reporting, official court reporting, closed captioning, real time and Communication Access Realtime Translation (CART). This school was not accredited.

C-1 Truck Driver Training  
St. Louis, Missouri

This school offered a three-week truck driving certificate program. Although maintaining its location in Strafford, Missouri, this school is closing its St. Louis location, citing a lack in profitability of this location. The school has complied with the requirements for school closure.

Image Body and Beauty  
St. Joseph, Missouri

This school, offered certificate programs related to massage therapy, CPR and first aid, and permanent cosmetics. This school was not accredited. When the school failed to submit recertification materials for the 2008-09 certification year, the department sent a certified letter notifying the school of closure requirements. Upon failure to respond to that, department staff contacted the school and was informed the school was closing and would not seek recertification. Program staff is continuing to work to ensure the school closure is consistent with certification program requirements.

Lesley University (North Kansas City and St. Louis sites)  
Cambridge, Massachusetts

This regionally accredited (New England Association) not-for-profit higher education institution, which offers several Master of Education programs, is maintaining its outreach programs in Columbia, but closing its locations in St. Louis and Blue Springs. The school indicated these two locations have not proven to be financially viable. Since the institution will continue to offer instruction in the state and continues to maintain its permanent campus in Massachusetts, arrangements relating to closure are not applicable.

Mid-west Dental Assistant School  
Kansas City, Missouri

This for-profit school offered a short-term, nondegree dental assisting program in an active dental clinic using an accelerated 10 week format of weekend attendance. This school was not accredited. When the school failed to submit recertification materials for the 2008-09 certification year, the department sent a certified letter notifying the school of closure requirements. At present, staff has been unsuccessful in verifying the circumstances of the school closure but is continuing to work to determine compliance with established standards.

St. Charles School of Massage Therapy  
St. Charles, Missouri

This school, which was accredited by the Commission on Massage Therapy Accreditation (COMTA), offered a variety of certificate programs related to massage therapy. The school notified the department of its closure and has complied with all the department's requests regarding closure and the maintenance of student records. Currently, the school is performing a teach-out for all enrolled students. The certificate of approval has been extended until August 30, 2008 in order to permit the completion of the teach-out process.

Susanna Wesley Family Learning Center  
East Prairie, Missouri

This not-for-profit school offered certificate programs to improve office skills for its students. The school notified the department they wish to allow their certificate of approval to lapse due to lack of interest in the programs offered. Program staff is continuing to work to ensure the school closure is consistent with certification program requirements.

## AGENDA ITEM SUMMARY

### AGENDA ITEM

Update on State Student Financial Assistance Programs  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

The Coordinating Board assists thousands of students in accessing postsecondary education each year through the state student financial assistance programs administered by the Missouri Department of Higher Education (MDHE). This agenda item provides background information on the programs administered by the MDHE, the current status of each program, and changes on the horizon.

#### Access Missouri

The Access Missouri Financial Assistance Program was enacted in 2007 to replace the Charles Gallagher and Missouri College Guarantee programs as the state's need-based student financial assistance program. Financial need is determined based on the federal formula that calculates a student's expected family contribution (EFC). The program was designed to simplify and streamline the application and award process and to make awards more predictable for students and financial aid officers.

With the increased funding for need-based aid authorized for fiscal year 2008, the program has clearly had a positive impact on award amounts and students served. As of May 23, 2008, more than \$71.7 million dollars in Access Missouri funds have been distributed to almost 39,000 students. This constitutes an increase in the number of students served of more than 130 percent over the previous year.

#### Higher Education Academic Scholarship Program (Bright Flight)

The Higher Education Academic Scholarship Program, more commonly known as Bright Flight, is the state's sole merit-based program. Student eligibility is based on performance on the ACT or SAT standardized test and is limited to those scoring in the top three percent of their graduating class. Scores achieved on tests prior to the student's senior year are applicable, but they must meet the threshold established for their senior year. For the 2007-2008 academic year, the minimum composite ACT score was 30 and the SAT score was a 780 on both the math and verbal sections of the test.

Bright Flight has been a fully funded program since its inception in the late 1980s, meaning all eligible students have received the statutorily established scholarship amount of \$2,000. As of

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May 23, 2008, the MDHE has distributed almost \$17 million dollars to 8,756 students. This constitutes an increase in students served of approximately four percent over the previous year.

### **Marguerite Ross Barnett Memorial Scholarship**

This scholarship program, named in honor of a former chancellor of the University of Missouri-St. Louis, is the only state-funded student assistance program designed specifically for students who attend part-time. The program is need-based and provides scholarships to students working at least 20 hours per week and who are enrolled in at least six but less than 12 semester credit hours at a participating institution.

The department has distributed more than \$420,000 to 185 students through this program for fiscal year 2008, which is virtually unchanged from the previous year. It is important to note that, unlike Bright Flight which is fully funded, or Access Missouri from which eligible students are guaranteed an award, Ross Barnett is a program for which the appropriation is insufficient to provide scholarships for all eligible students. It is difficult to estimate the total number of eligible students that remain unfunded because much of the application process was shifted to the institutional financial aid offices with the implementation of the FAMOUS (Financial Assistance for Missouri Undergraduate Students) system. However, based on data for the last three years provided by participating institutions, it appears an average of at least 75 eligible students are unfunded. Although that estimate is likely low, it would cost approximately \$170,000 to fund those additional students, based on this estimate and the average award for the current year.

### **Public Service Officer Survivor Grant**

This program is intended to provide financial assistance to children and spouses of public service officers and certain Missouri Department of Transportation employees killed or totally disabled in the line of duty. Benefits are also available to public service officers that are totally disabled in the line of duty.

During fiscal year 2008, 16 eligible recipients received \$65,427 in assistance. This program is also fully funded as all known eligible students receive awards. This program has been seeing slow growth in the number of eligible students over the past several years and corresponding increases in appropriations have been requested by the board and approved by the legislature.

### **Vietnam Veteran Survivor Grant**

This program is intended to provide financial assistance to the children and spouses of veterans of the Vietnam conflict that were killed due to exposure to toxic chemicals during their military service.

During fiscal year 2008, five eligible students received \$18,756 in assistance, representing awards for all known eligible students. Based on the timeframe for establishing eligibility, it is predicted the number of recipients of grants through this program will continue to decline and, within the next few years, the number of individuals that are eligible will reach zero.

### **Advantage Missouri**

This program, enacted in 1998, was designed to encourage individuals to pursue education and employment in the state of Missouri in certain targeted high-demand/high-need occupations. The structure of the program provided the initial assistance as loans, which would be forgiven if the recipient was employed in a targeted occupation for a minimum period of time after graduation.

Due to legislative action to eliminate funding for this program, new students no longer received assistance beginning with fiscal year 2002. Fiscal year 2005 was the last year loans were made to students in this program, and the last eligible student ceased postsecondary enrollment in August of 2007. Because this is an employment-contingent loan forgiveness program, the department continues to administer major components of the program, including monitoring the employment of recipients, collecting and processing loan payments, and monitoring the loan/repayment status of all currently active borrowers.

However, adequate administrative support was never authorized by the General Assembly, and as a consequence, the extensive administrative burden required to administer this type of program has not been adequately addressed since the program's inception. Staff is currently in the process of assessing the status of all current borrowers and developing an overall plan to improve operations through the projected end of the program, which should occur sometime in 2018.

### **Academic Year 2008-2009 Changes**

It is clear the Access Missouri program will receive a substantial increase in funds available for distribution to eligible students. In response, staff has already taken steps to raise the projected award amounts to the maximum levels provided in the authorizing statute. While department staff continue to review and analyze the available data, it is unlikely this step alone will be sufficient to expend the entire appropriation. Consequently, as provided in the authorizing statute, it is also likely the threshold for financial eligibility will need to be raised in order to make a sufficient number of additional students eligible to expend all funds.

Changes are also taking place in the Bright Flight program as the minimum eligible score levels for students receiving their initial scholarship this fall has increased to an ACT composite score of 31 and an SAT math score of 790. The SAT verbal score of 780 remains unchanged. While this will likely slow the growth seen in this program over the last several years, with larger numbers of students taking the tests and more students scoring at the highest score levels, it is not expected that the program will see a substantial reduction in the number of eligible students. Additionally, for fiscal year 2011, major statutory changes will become effective, and will create a tiered system of awards that extend to the top five percent of test takers. Department staff has begun the process of predicting the fiscal impact of this change and planning the needed changes to the administrative rule and FAMOUS system.

During the recently completed session, interest surfaced in revising the statutes authorizing some of the financial assistance programs administered by the department. In particular, department staff worked with legislators on revisions to the Bright Flight program to clarify student eligibility provisions and update the requirements for establishing the minimum qualifying scores. It is anticipated interest in this area will continue during the 2009 session.

Beginning this fall, renewal students must meet a cumulative grade point requirement (2.5 on a 4.0 scale) in several financial aid programs in order to continue to receive an award. For Access Missouri, this requirement is mandated by statute while the renewal requirements for the other two programs (Bright Flight and Ross Barnett) have been implemented by administrative rule at the recommendation of the State Student Financial Assistance Committee. Particularly in the case of Access Missouri, this has resulted in a discussion of the role of an academic requirement for renewal of a need-based grant. Department staff will closely monitor the impact of these changes and report the results to the Coordinating Board this fall.

Plans for the implementation of two new financial assistance programs are also underway. Those programs are the Kids' Chance Scholarship and, if signed by the Governor, a new combat veterans scholarship program enacted by the legislature earlier this year. Department staff will bring additional information about these programs as well as the administrative rules for their operation to future board meetings.

### **Conclusion**

Providing Missouri citizens with improved financial access to a wide range of postsecondary education opportunities is one of the primary objectives of the MDHE, and that effort plays a prominent role in the coordinated plan for higher education being developed. Continued focus on improving and expanding these programs as well as the effective and efficient administration of the programs listed above will continue to reduce financial barriers to higher education and support efforts to encourage more Missourians to seek education beyond high school.

### **STATUTORY REFERENCE**

Section 173.235 RSMo, Vietnam Veteran's Survivor Grant Program  
Section 173.250 RSMo, Higher Education Academic Scholarship Program  
Section 173.260 RSMo, Public Service Officer or Employee's Child Survivor Grant Program  
Section 173.262 RSMo, Marguerite Ross Barnett Memorial Scholarship Program  
Section 173.775 RSMo, Advantage Missouri Program  
Section 173.1101 RSMo, Access Missouri Financial Assistance Program

### **RECOMMENDED ACTION**

Assigned to Consent Calendar

### **ATTACHMENTS**

None

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## AGENDA ITEM SUMMARY

### AGENDA ITEM

Update on MDHE Proprietary School Program  
Coordinating Board for Higher Education  
June 12, 2008

### DESCRIPTION

The Proprietary School Certification Program was established in fulfillment of the statutory mandate for an oversight program for certain types of postsecondary education institutions. The intent of this board item is to provide background information about the program as well as a summary of important improvements and challenges.

#### Background

Any school or training facility not specifically exempted from the statute establishing the program must be certified to operate to offer instruction, grant certificates or degrees, or recruit students in the state of Missouri. In order to comply with this requirement, schools must apply for exemption from or certification to operate under the proprietary school regulations.

The central focus of the Proprietary School Certification Program is consumer protection. This is accomplished through the establishment of standards for school operation and monitoring of those operations to ensure students are treated in a fair and equitable manner and receive education and training consistent with the published objectives of the instructional programs and the school. As a secondary focus of operation, the program works to assist schools in improving their operations, both with regard to compliance with certification standards but also in serving the students of the state of Missouri. Technical assistance is frequently provided to school personnel and the sector is involved in the policy development work of the Coordinating Board.

#### Functions of the Proprietary School Certification Program

There are several distinct components to the certification and recertification process.

- Completion of the application for certification: Applicant schools are required to provide extensive information about the school's governance, instructional programs, personnel, financial condition, consumer information, policy framework, and recordkeeping. This includes the submission of school catalogs, handbooks, enrollment contracts, transcripts, and faculty/staff résumés.
- Application review: Once a complete application is submitted, department staff conducts a thorough review of the information submitted and develops a list of findings that are communicated to the school. Findings include areas where the school fails to comply

with certification standards, concerns regarding problematic or questionable practices and policies, and recommendations for change and improvement.

- On-site visit: While an on-site review is not required prior to the approval of the application, the program maintains a comprehensive and dynamic on-site review process. Focusing on gathering feedback from students and staff and the review of student records maintained by the school, this process is designed to verify the accuracy of the information supplied on the school's application for certification, to confirm the school is accurately represented by its publications and advertising, to evaluate the extent to which the school applies its stated policies and to provide technical assistance as needed.
- Posting a security deposit: Once an application has been approved, Missouri statutes require the school post a security deposit before a certificate of approval can be issued. This financial instrument is for the purpose of student indemnification and to ensure compliance with specific certification standards. It must be maintained for as long as the school is certified to operate.
- Payment of the certification fee: The last step of the process is the payment of an annual certification fee. Each school must pay the amount required by the statutory formula. These funds are deposited into the General Revenue account. The total amount deposited averages approximately \$130,000 each year.

In addition to the certification and annual recertification of institutions as described above, the program is also engaged in a range of additional oversight functions.

- Monitor all schools certified to operate for ongoing compliance with standards.
- Conduct joint on-site visits with teams from recognized accrediting agencies.
- Review and approval substantive changes implemented by certified schools including:
  - Implementation of new programs of instruction,
  - Substantive revision of existing programs,
  - Relocation of schools,
  - Addition of new instructional locations,
  - Revision of school name, and
  - Change of school ownership.
- Work with the Proprietary School Advisory Committee on program administration, rule and regulation revision, and grievances and complaints.
- Assist students and schools during the school closures process. In some instances, this includes taking possession of and servicing requests for access to student records.
- Review student complaints and take action when the dispute relates to an issue of compliance with standards.
- Provide information and guidance for a better informed consumer.

### **Fiscal Year 2007 Program Performance**

- 165 main and branch campuses issued certificates of approval to operate
  - 108 Missouri private career schools (131 locations including branches)
  - Includes 8 new Missouri schools
- 28 non-Missouri schools approved for recruitment only
- 33 applications to establish new institution processed (both exempt and certified)

- 18 exemptions granted
- 4 school closings monitored
- 1,595 program additions and revisions processed

### **School Data for Calendar Year 2006**

- Enrollment – 73,964
- Completions – 22,173
- Instructional Programs – 2,122 programs offered
- Personnel – 3,791 administrative and instructional employees
- Financial Contribution - \$276,304,189 expended into the economy
- Financial Aid Awarded - \$276,487,391 to 34,825 students

### **Program Improvements**

While it has not been feasible to adopt a completely electronic application process for renewal schools, steps were taken during the current recertification cycle to reduce the required paperwork staff would have to handle and to automate the review and decision processes relating to that function. This year, all recertification applications were converted to an electronic (optical) format as soon as they arrived at the department offices. The only exception to this process was the school catalog, many of which did not lend themselves to this conversion. Subsequently, all review processes, including the generation of review letters and notices to the schools, were conducted within that electronic system. This process has streamlined the review process and standardized the manner in which all of the recertification materials have been handled, resulting in a considerable savings in time and improvement in the quality of the outcomes of the review.

As has been done periodically, the program will conduct a survey of institutional satisfaction with the annual recertification process. This survey has provided positive feedback in the past concerning the level of customer service provided by program staff and should provide valuable insight into areas that can be improved in the future.

Updated and reorganized materials on the department website have improved school and consumer information, making it easier to find and use. The improved program inventory search function provides a more user-friendly approach to gathering information about programs offered in all sectors of postsecondary education, a benefit to institutional officials as well as the general public.

The certification program reorganization completed last year has resulted in a better division of duties and improved responsiveness to the needs of both students and institutions. While workloads remain high and backlogs of work continue to exist, conditions have improved considerably from past situations.

### **Challenges**

For the past several years, one of the primary challenges facing the certification program has been the need to update and strengthen the authorizing statute, particularly with regard to unaccredited degree granting institutions and diploma mill suspect operations. While the Board designated a proposal to address this issue as a legislative priority and department staff found some receptivity among legislators, the department was not successful in promoting the introduction and passage of this important legislative initiative. Program staff has begun the process of reviewing and refining the proposed legislative language and is discussing how to capitalize on opportunities to improve the visibility and viability of this proposal during the next legislative session.

Although the department maintains a rich data collection system for this sector of education, the program has struggled to make the best use of this information both with regard to consumer information and for policy search purposes. Statistical reports have been generated by staff but it is clear those reports, while complete, lack a level of accessibility that is necessary for them to benefit a larger audience. In addition, the current data collection and storage system is outdated and in dire need of upgrade and modernization. Current plans are to make improvement of this relatively unique data system a priority as staff time and financial resources make efforts in this area more attainable.

### **Conclusion**

The goal of the activities undertaken as part of the Proprietary School Certification Program is to provide adequate consumer protection while ensuring private postsecondary education providers are well positioned and capable of fulfilling their missions and assisting in the achievement of the Board's agenda for educational change in Missouri. These institutions have a crucial role to play in postsecondary education in Missouri, including increasing access to and success in postsecondary education and meeting the needs of Missouri's employers and workforce training system. An efficient and effective certification program is an essential component of the success of that endeavor by ensuring confidence that unscrupulous institutions cannot operate in Missouri and by challenging the institutions in this sector to meet meaningful qualitative standards.

### **STATUTORY REFERENCE**

Sections 173.600 through 173.618 RSMo, Regulation of Proprietary Schools

### **RECOMMENDED ACTION**

Assigned to Consent Calendar

### **ATTACHMENT**

None

## **AGENDA ITEM SUMMARY**

### **AGENDA ITEM**

Update on Educational Needs Analysis  
Coordinating Board for Higher Education  
June 12, 2008

### **DESCRIPTION**

Education providers and business leaders in the Cape Girardeau area joined to form the Cape Girardeau Coalition Task Force, which will contract with an external provider for an educational needs analysis focusing on Cape Girardeau county and several adjacent Missouri and Illinois counties. The intent of this board item is to provide an update on the progress of this project.

#### **Background**

Educational attainment and availability of instructional services in southeast Missouri have been longstanding interests of area policymakers, educators, and community leaders. Several models were being promoted by different groups interested in expanding educational opportunities in the region. Rather than working individually, a Task Force was formed to pool resources for a balanced, comprehensive analysis of the needs of the region to be conducted by an external entity.

As was reported to the Coordinating Board at its April 2008 meeting, Task Force members collectively raised \$68,500 to fund the analysis and issued vendor guidelines to two prospective out-of-state research organizations with national recognized expertise to conduct the study. The Missouri Chamber of Commerce is serving as the fiscal agent for this project.

Due to communication difficulties with one vendor, however, revised guidelines (see attached) with a new timeline were issued to the research organizations. The Task Force extended the deadline for proposal submission to June 1, 2008. The Task Force intends to contract with a vendor by early July, with a final report to be completed by November 24, 2008. Upon receipt of the final report, the Task Force will meet to discuss the report findings and to determine next steps.

### **STATUTORY REFERENCE**

Sections 173.005, RSMo

### **RECOMMENDED ACTION**

This is an information item only.

### **ATTACHMENT**

Revised Vendor Guidelines (May 2008)

Coordinating Board for Higher Education  
June 12, 2008

Revised Vendor Guidelines (May 2008)  
**Cape Girardeau Educational Needs  
Coalition Task Force**

**Statement of Purpose**

The Cape Girardeau Chamber of Commerce, on behalf of the Cape Girardeau Coalition Task Force, invites a proposal from your firm to undertake a comprehensive analysis of the educational needs of Missouri's Cape Girardeau County and select surrounding counties, including those in Illinois.

**Background**

Postsecondary education in Missouri is offered through a diverse system of universities, colleges, high schools, career and vocational schools, and through cooperative agreements with businesses and industry.

Cape Girardeau, Missouri is home to Southeast Missouri State University (Southeast), a master's-level, moderately selective university. Cape Girardeau County is within the voluntary service region of Three Rivers Community College, whose campus is located in Poplar Bluff, approximately 80 miles south of Cape Girardeau. Other institutions that have an interest and history in Cape Girardeau County postsecondary opportunities are Mineral Area College (90 miles north of Cape Girardeau), the Cape Girardeau Career & Technology Center (3 miles south of Southeast), the Southeast Missouri Hospital College of Nursing and Health Sciences (2 miles south of Southeast), and several other private career colleges and schools.

As Cape Girardeau County has grown and matured, different opinions have been expressed on the extent of unmet regional needs and the demand for new opportunities to expand services to the local population. One community college, for example, contemplates the establishment of a permanent residence center, while others are actively discussing the delivery of additional educational services through such measures as the creation of a separate community college taxing district in Cape Girardeau, the expansion of collaborative delivery structures by existing partners, or the development of a branch campus of a four-year institution.

What initially began as a discussion of potentially duplicative institutional services has broadened into a regional awareness that further investment in educational resources requires a comprehensive analysis of current and future educational needs. Accordingly, local business and educational institutions banded together to form the Cape Girardeau Coalition Task Force<sup>1</sup> ("the Coalition"), administered by the Cape Girardeau Chamber of Commerce and advised by the Missouri Department of Higher Education (MDHE) and the Coordinating Board for Higher Education (CBHE).

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<sup>1</sup> Benton Hill Investment Company; Cape Girardeau Career and Technology Center; Cape Girardeau Chamber of Commerce; Drury Southwest, Inc.; Gary Rust; Mid-America Hotels Corporation – Drury Restaurants; Mineral Area College; Southeast Hospital College of Nursing and Health Sciences; Southeast Missouri State University; Three Rivers Community College

## Scope of Work

The scope of services to be provided must include an analysis of the educational needs of the following communities:

Missouri Counties: Cape Girardeau, Bollinger, North Scott, North Stoddard

Illinois Counties: Union, Johnson, Perry, Alexander

The provider of this analysis will utilize the necessary tools and techniques to provide comprehensive analysis of educational needs in the communities listed above as appropriate. This analysis shall include but not be limited to the following:

**Educational Demography.** A demographic portrait of regional postsecondary education participation in Cape Girardeau and surrounding counties (as geographically defined above). Analysis should include participation by older adults as well as graduates from the following school districts and private high schools:

Missouri School Districts: Cape Girardeau, Jackson R-2, Scott County R-4 (Kelly), Chaffee R-2, Delta R-5, Scott City R-1, Advance R-4, Leopold R-3, Oak Ridge R-6, and Woodland R-4.

Missouri Private High Schools: Notre Dame High School, Saxony Lutheran High School, and Eagle Ridge Christian School.

**Educational Needs.** A portrait of the postsecondary educational resources available to regional students. What educational needs are not being met by current educational offerings? What is the best way to locally fulfill unmet needs? More specifically, do large numbers of students leave the region to participate in educational programs not locally available? What is the best answer for Cape Girardeau students seeking an open enrollment education? What impact does geographical distance from a community college have on participation in Missouri's A+ program? How are remedial education needs best addressed by students who wish to attend a moderately selective institution, but who may be initially or partially unprepared for attendance? Are there any other pockets of particular opportunity or constraint for the region? Please include a specific cost-benefit analyses in your answers to these questions.

**Education and Economic Development.** The benefits of a strong postsecondary education system to the regional economy. Be as specific as possible. What are region's fastest growing jobs and how well do current educational offerings prepare students for this work? What will be the region's educational needs in ten to fifteen years? Could a differently educated workforce help attract business to the region? What employment-training options are not available in the immediate Cape Girardeau area, but are offered at traditional regional community colleges? Are there any specific regional cultural or social barriers blocking postsecondary attendance? Please explain.

## Proposal Preparation

Limit narrative to fifteen double-spaced pages with a font equivalent to 12-point Times New Roman. Proposals should be written using the following format and headings to ensure that reviewers are better able to consistently evaluate all proposals:

- Proposal Cover Page
- Table of Contents
- Narrative
  - Specification of Project Design and Objectives
  - Description of Project Activities/Structure
- Proposal Appendices (Budget summary / justification; Curricula vitae / resumes for key project personnel - document only relevant experiences and limit to two (2) pages per person; References -minimum of two)

## Schedule

The response must be in writing and no fax bids will be accepted. Eleven (11) copies of the proposals must be received by John Mehner, CCE, President and CEO, Cape Girardeau Chamber of Commerce, 1267 North Mount Auburn Road, Cape Girardeau, MO 63701. Please also submit one electronic copy of the proposal in Microsoft Word format sent as an attached file to [Laura.Vedenhaupt@dhe.mo.gov](mailto:Laura.Vedenhaupt@dhe.mo.gov).

Consultant proposals due	June 1, 2008
Consultant meeting invitations	June 16, 2008
Project concept meeting (as arranged)	June 30, 2008
Notification of award	July 7, 2008
Data review complete	August 18, 2008
Preliminary design and recommendations	October 13, 2008
Final report presented	November 24, 2008

Eleven bound copies of the final report will be delivered to the Cape Girardeau Chamber of Commerce at the address noted above, and one hard copy and one electronic copy of the final report will be delivered to the Missouri Department of Higher Education, 3515 Amazonas Drive, Jefferson City, Missouri 65109 no later than 5:00 pm, November 24, 2008.

## Response

The proposal must include the following information.

- A. Fee for professional services \$\_\_\_\_\_
  
- B. Estimated out-of-pocket expenses for which you would seek reimbursement:
  - Travel \$\_\_\_\_\_
  - Printing/Copying \$\_\_\_\_\_
  - Phone \$\_\_\_\_\_
  - Misc. (List) \$\_\_\_\_\_
  - Cap on out-of-pocket expenses to be reimbursed \$\_\_\_\_\_
  
- C. The response must include a detailed list of recent educational consulting experience.
  
- D. The response must include the resume of each individual assigned to the project. These resumes should emphasize relevant experience of the assigned personnel. No reassignments of individuals will be allowed without the prior approval of the Coalition.
  
- E. The response must indicate whether the firm or any principals that would be involved in the project have been subject to any professional disciplinary action, been convicted of or plead guilty to any state or federal offense, or paid any civil judgment, settlement, or fine in connection with their professional practice.
  
- F. The response must indicate whether the firm or any principals involved in the project have other interests or relationships that might conflict with or compromise the expectations of the Coalition as provided in this request for proposal.

## Evaluation

All proposals responsive to the above requirements will be evaluated by Coalition evaluation team on four major criteria.

1. Scope of service - particular scrutiny will be given to deviations from the specific requirements. (30 %)
2. Expertise of assigned personnel (30%)
3. Cost (40 %)

In addition, firms will be asked to make an oral presentation of its proposal. Any cost of participation in such a conference shall be at the firm's own expense. All arrangements and scheduling shall be coordinated by the Coalition. Further questions of your firm may be conducted in person, via telephone or Internet, prior to the award of the contract, as deemed necessary. All arrangements and scheduling shall be coordinated by the Coalition. The Coalition

reserves the right to conduct negotiations of the proposals received or to award the contract without negotiations.

### **Payments, Incentives, and Penalties**

The provider of this analysis will receive payment of one-third of the total contract price upon conclusion of the initial project concept meeting with the Coalition. The second one-third of the total contract price will be paid upon completion of the survey instruments to be used to elicit information from students and the communities. The final one-third of the total contract price will not be released until the final report has been received by the Coalition.

### **Contacts**

If you have any questions, please contact John Mehner, President and CEO, Cape Girardeau Chamber of Commerce at (573) 335-3312 or via email at [jmehner@capechamber.com](mailto:jmehner@capechamber.com), or you may contact Robert Stein, Commissioner of Higher Education, Missouri Department of Higher Education at (573) 751-1876 or via email at [Robert.Stein@dhe.mo.gov](mailto:Robert.Stein@dhe.mo.gov).