Faculty Senate Meeting 4/20/04

The meeting was called to order at 4:15 p.m. All departments were in attendance.

I. Minutes of the April 6, 2004 Meeting

The correct title for the proposed course SPED 330 is *Social Discrimination and Oppression of People with Disabilities*. It was incorrect on the cover sheet. The minutes were approved as amended.

II. Report of the Faculty Senate Chairperson

Chairperson Piperberg on behalf of the Faculty Senate expressed condolences to President McNairy on the loss of her mother over the weekend.

The new policy in which the Faculty Senate Chair gets an update on the progress of course and curriculum proposals that have been sent onward for administrative approval is already in place. Michele Boté sent an e-mail attachment informing the Chair that the proposals passed in the last two Faculty Senate meetings will be addressed at the April 21 meeting of Dean's Council.

A procedure to approve Faculty Emeritus/a resolutions by having the Faculty Senators vote through e-mails was presented. In order to expedite the submission of new Faculty Emeritus/a proposals for approval during the June Trustees' meeting, these proposals will be e-mailed to Chairperson Piperberg by May 7, 2004. He will then distribute the proposals via e-mail to the Senate membership. The Senators will send their votes through e-mail to the Chair during the period of May 7 to May 14, 2004. He will then report the passage of the proposals to Acting Provost Shane. A Luek/Heintzelman motion was passed without dissent approving this procedure. This is a one-time proposal to handle the anticipated retirements stemming from the new contract and to expedite the awarding of Emeritus/a status for those individuals.

The Faculty Senate June meeting this summer is on June 8 at 3:00 p.m. in the Armstrong Auditorium (Room 210) of the Caputo Building. Refreshments will be provided. At that meeting, the Committee vacancies for the fall will be distributed.

Chairperson Piperberg thanked the Faculty Senate for their help and support during his six years as Chairperson. He stated that he will give any help that Chairperson-Elect Kerper may need.

III. Report of the Student Senate President

Kristin Albright, Student Senate President reported that the last Student Senate Meeting for this semester will be held Thursday, April 22, 2004. The Student Senator of the Year was selected.

Ms. Albright commented on how great it was to participate in the Freshman Experience Proposal process.

The Student Senate suggested that the additional days in the calendar for the spring 2005 should be "reading days". These reading days are days for the students to get ready for their final exams. No exams should be scheduled during these days.

IV. Report of the Graduate Student Organization - None.

V. Report of the Administrative Officers

Acting Provost Shane

Acting Provost Shane expressed his appreciation of the work that Senator Piperberg has done as the Faculty Senate Chairperson.

The Human Subject Research Committee is making changes on how it operates. The new title of the committee is the Institutional Review Board. The committee structure will not change. A person representing administration will be added to the committee in order to comply with federal standards.

Executive Assistant to the President Phillips

The Common Calendar Committee came up with a proposal for the Spring 2005 calendar. An extra week will be added to the semester and then four additional "vacation days" will be added as well. The last day of class will be on a Wednesday; Thursday and Friday of that week will be designated as reading days. During the reading days, there should be <u>no</u> final exams scheduled. In addition, Tuesday, April 12 and Wednesday, April 13 will be used to make up classes missed due to cancellations/delays stemming from bad winter weather or other causes, if necessary. Various student activities, which may include an academic festival, assessment activities and other similar events, will be scheduled for these days; most, if not all, of these activities will be scheduled in the afternoon.

Assistant Provost for Academic Services Bello-Ogunu

Assistant Provost for Academic Services Bello-Ogunu thanked the faculty for their involvement in the Academic Advisement program review process.

Registrar Deen

Registrar Deen responded to a question raised by Senator Mowrey regarding a previous discussion on the language of the newly approved drop/add policy. This issue will be discussed by the Academic Policies Committee.

VI. Reports of the Faculty Senate Standing Committees

UCPRC

Senator McCotter, Chair of the UCPRC presented the following proposals:

CHEM 302 - Chemistry in Nanotechnology. Dr. Wismer pointed out that the cover sheet for the course originally had a 2-hour lab listed and that it should be 3 hours. This was changed to 3 hours on the floor of the Senate. In anticipation of this action, the distributed proposals already had been changed, but the change was noted officially for the record. The body of the proposal contained the correct information on the 3-hour lab from the start of the process. The cover sheet was incorrect. B.S. in Industrial Technology – Addition of Nanofabrication Manufacturing Option

A.T. in Industrial Technology – Addition of Nanofabrication Manufacturing Option

A Wismer/Price motion was passed without dissent to waive the two meeting rule for the approval of the above proposals.

CHEM 324 – Plant Biochemistry

GCPRC - No Report

Academic Policies Committee

Senator Kerper, Chair of the Academic Policies Committee, presented a proposal for Course and Program Approval Procedures. {see Attachment #1} It will be discussed at the next Faculty Senate Meeting.

VII. Reports of the Faculty Senate Special Committees

General Education Task Force Committee

Elections for two vacant seats took place. A Schaffer/Wismer motion passed without dissent to nominate Senator Tacka for the Humanities Seat. A Wismer/Schaffer motion directing the Secretary to cast a ballot in favor of Senator Tacka passed without dissent. Senator Tacka was thus elected to fill the General Education Task Force Humanities Seat.

Alex DeCaria was elected to fill the vacant At-Large Seat.

VIII. Proposed Courses and Programs

(1) NEW UNDERGRADUATE COURSE

SPED 330 – Sociological Aspects of Disability (desired title: Social Discrimination and Oppression of People with Disabilities), a Perspectives (P) course, 3 credits. Desired effective date – Summer 2005

(2) NEW UNDERGRADUATE COURSE

HIST 470 – The Vietnam War, a Perspectives (P) course, 3 credits. Desired effective date – Spring 2004.

- (3) NEW GRADUATE COURSE WSSD 621 – Nutrition for Exercise and Sport, 3 credits. An elective in the Masters in Sport Management program. Desired effective date – Fall 2004.
- (4) NEW UNDERGRADUATE COURSE ECON 305 – Economics in Film, a Perspectives (P) course, 3 credits. Desired effective date – Summer 2004.
- (5) NEW UNDERGRADUATE COURSE CHEM 302 – Chemistry in Nanotechnology, 3 credits (2 hours lecture, 3 hours lab). The cover sheet for the course originally had a 2-hour lab listed. This was changed to 3 hours on the floor of the Senate. The body of the proposal contained the information on the 3-hour lab from the beginning. The cover sheet was incorrect. This course is part of the next item (the B. S. Industrial Technology – Nanofabrication Manufacturing Technology option). Desired effective date – Spring 2005
- (6) CHANGES IN COURSES/CURRICULA Addition of a new option to the B. S. in Industrial Technology, the Nanofabrication Manufacturing Technology option. Desired effective date – Fall 2004.
- (7) CHANGES IN COURSES/CURRICULA Addition of a new option to the A. T. in Industrial Technology, the Nanofabrication Manufacturing Technology option. Desired effective date – Fall 2004.
- IX. Faculty Emeritus None

X. Ad Hoc Honor Code Committee: Honor Code Proposal and Implementation Plan

This discussion will be postponed until APSCUF responds

XI. Assessment Presentation: Degree Specification – Dan Weinstein

Assistant Provost for Planning and Assessment Weinstein discussed the proposed Degree Specification Matrix that will facilitate the collection of data by departments on how their students are meeting the outcomes goals set by the University and how it relates to the University mission. Several samples were provided. {see Attachment #2}

XII. Academic Policies Committee: Policies Regarding Interdisciplinary Programs

Several senators expressed their desire to have more time to discuss this policy with their departments. A Schaffer/Kervorkian motion to postpone a vote until next meeting was passed without dissent. Some discussion of the proposal took place. Questions were raised and answers given.

XIII. Other/New Business

Senator Lynch announced APSCUF Golf Social at Crossgates on May 3, 2004.

Senator Wismer proposed to formalize the process discussed at previous meetings dealing with monitoring the progress of course and curriculum proposals passed at Senate after they have been sent to the administration for further consideration. Senator Wismer will draft a written procedure to discuss at the June 8 meeting.

Senator Sciarretta asked Dr. Phillips to consider opening seats for students who wish to register for certain courses to alleviate registration difficulties for these students. Most of these courses are closed to save seats for incoming students. Senators suggested that it might be advisable to provide for students already on campus.

For the next Faculty Senate Meeting, a discussion on student evaluations will be added to the agenda as requested by Senator Rosenthal.

The meeting was adjourned at 5:45 pm.

Respectfully Submitted by

Elba I. Rohena Senate Secretary

Action Summary

Minutes of the April 6, 2004 meeting approved with a correction to the title for the proposed course SPED 330. The correct title is *Social Discrimination and Oppression of People with Disabilities*. It was incorrect on the cover sheet. The minutes were approved as amended.

A procedure to approve Faculty Emeritus/a resolutions by having the Faculty Senators vote through e-mails was presented. A Luek/Heintzelman motion was passed without dissent approving this procedure. This is a one-time proposal to handle the anticipated retirements stemming from the new contract and to expedite the awarding of Emeritus/a status for those individuals.

A Wismer/Price motion was passed without dissent to waive the two meeting rule for the approval of the CHEM 302 (Chemistry in Nanotechnology), B.S. in Industrial Technology – Addition of Nanofabrication Manufacturing Option and A.T. in Industrial Technology – Addition of Nanofabrication Manufacturing Option proposals.

Elections for two vacant seats on the General Education Task Force Committee took place. A Schaffer/Wismer motion passed without dissent to nominate Senator Tacka for the Humanities Seat. A Wismer/Schaffer motion directing the Secretary to cast a ballot in favor of Senator Tacka passed without dissent. Senator Tacka was thus elected to fill the General Education Task Force Humanities Seat. Alex DeCaria was elected to fill the vacant At-Large Seat.

Proposed Courses and Programs

(1) NEW UNDERGRADUATE COURSE

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- (7) CHANGES IN COURSES/CURRICULA Addition of a new option to the A. T. in Industrial Technology, the Nanofabrication Manufacturing Technology option. Desired effective date – Fall 2004.

A Schaffer/Kervorkian motion to postpone a vote on the proposed Interdisciplinary Program policy until next meeting was passed without dissent.

Attachment #1

то:	Faculty Senate
FROM:	Richard M. Kerper, Chairperson Academic Policies Committee
DATE:	April 20, 2004

RE: Course and Program Approval Procedures

In December 2003, Faculty Senate referred the Distance Learning Approval Process to the Academic Policies Committee. Discussions of this process resulted in a reconsideration of all Course and Program Approval Procedures in the Governance Manual. This document, the result of the Committees work, contains proposed revisions to Section 3. Excluding the headings, all bold print represents additions. Strikethroughs mark the deletions.

Section 3: Undergraduate Academic Policies

Course and Program Modification Policies: Course and Program Approval Procedures

 The addition of new courses and programs, including courses using the instructional method (e.g., lecture or recitation) labeled distance learning (DL), and the addition/deletion of designations of existing courses as Liberal Arts Core, Lab (L), Perspectives (P), C, Q, and/or Writing (W), will be proposed by one or more departments or an interdisciplinary curriculum committee and submitted to the appropriate school curriculum committee(s) for evaluation. The course or program proposer must consult departments and interdisciplinary curriculum committees of all disciplines significantly involved. The result(s) of such consultation(s) shall accompany the course proposal(s) through all stages of the approval process as outlined in the Governance Manual. Proposals receiving negative decisions shall be returned to the existing department(s) or interdisciplinary curriculum committee accompanied by a statement explaining the rejection rationale.

Course and program development and modifications frequently have serious implications for resource allocations. To assure early administrative response to the implications of a curricular proposal, proposals submitted to the school curriculum committees for evaluation will be submitted simultaneously to the appropriate school deans. The school deans may provide an assessment of the impact on resources in writing or in person to the initiating department. Nothing in this statement shall be interpreted to mean that the deans can delay or prevent courses and programs from being considered by the appropriate departmental, school, or university committee.

Proposals approved by the school curriculum committees shall be forwarded to the Undergraduate Course and Program Review Committee. Proposals vetoed by the committee shall be returned to the initiating department(s) **or interdisciplinary curriculum committee** accompanied by an explanation for the veto. Should a proposal be twice vetoed by the school curriculum committee or the Undergraduate Course and Program Review Committee, the initiating department(s) **or interdisciplinary curriculum committee** shall have the right to appeal to the Faculty Senate. Should either the school curriculum committee or the Undergraduate Course and Program Review Committee fail to act upon a proposal within two months after transmittal to them, the initiating body shall have the right to appeal to the Faculty Senate whose decision shall be final.

Any decision of the appropriate course and program review committee may be reviewed by the Faculty Senate; however, if a decision on a new course or the new designation of existing courses as Liberal Arts Core, L, Perspectives, C, Q, and/or W, is not challenged by the next Senate meeting after it has been reported, the decision will be considered approved by the Senate.

- 2. New courses and designations must be duly approved by the Provost before being listed among a semester's course offerings.
- 3. Each course description listed in the catalog shall include a statement of the number and type of class meeting hours per week/term (subdivided, if appropriate, i.e., lecture, lab, recitation, distance learning) and when the course is normally offered.
- 4. Content and Organization of Course Proposal
 - a. A course is proposed by a department, not an individual. The perspective adopted in the proposal should reflect this ownership.
 - b. A course proposal must contain the following parts in the order listed.
 - . Catalog description with prerequisites
 - 2. Rationale and supporting information, including present curricular need(s) to be met by the course, projected enrollment, relationship(s) between the proposed course and other courses, courses to be removed from the catalog upon approval of the proposed course, primary orientation of the course (i.e., facts, analytical methods, technical skills), and appropriateness of course title, number and credit hours.
 - **3.** Primary course objectives and assessments clearly stated to describe an appropriate learning outcome in observable and measurable terms with assessments of student performance clearly aligned.
 - 4. Comprehensive outline of course content, using headings to identify primary divisions and subheadings to identify secondary divisions.
 - 5. Course grading policies consistent with the Governance Manual.
 - 6. Required course text and bibliography of supplemental books, journal articles, websites, and other media.
 - 7. General Education Credit (if appropriate), including a designation of the area(s) satisfied (i.e., Liberal Arts Core: Humanities and Fine Arts (G1), Science and Mathematics (G2), Social Sciences (G3), Lab, Perspectives, and Writing).
 - 8. Resource needs, including staff, library and equipment.
- 5. Experimental Courses
 - a. In order to encourage experimentation and to provide timely courses in a variety of areas, departments **and interdisciplinary programs** are permitted to offer one experimental course per calendar year with the approval of the department **or interdisciplinary curriculum committee** and with the understanding that the course will not be offered again until it has been evaluated by the students and the department/interdisciplinary **program** and approved according to the regular procedures outlined above. All experimental courses will be designated with a number ending in "79."

- b. Experimental courses may not count in General Education nor carry W, C, Q, or Perspectives designations.
- c. As part of the course approval process, a department may request that a course originally offered on an experimental basis count retroactively as General Education and/or W, C, Q, or Perspectives.
- 6. Interdisciplinary Courses
 - a. An interdisciplinary course reflects the knowledge, perspectives, and methodologies represented in an interdisciplinary program focusing on integrated disciplines. "Interdisciplinary courses" are defined to include the following categories: 1) courses which reflect inter relationships among two or more disciplines, 2) Perspectives courses with interdisciplinary content, 3) courses cross listed by two or more departments and, 4) Divisional courses as provided and defined in subsection B of Course Identification Policies.
 - b. Interdisciplinary courses must be approved first by the curriculum committee of the interdisciplinary program from which it originates before moving to the curriculum committee of the school in which the program is administratively housed. Courses approved by a school curriculum committee must then be approved by the Undergraduate Course and Program Review Committee and Faculty Senate respectively. .In proposing interdisciplinary courses, departments of all disciplines significantly involved must be consulted by the course('s') proposer(s). The result(s) of such consultation(s) shall accompany the course proposal(s) through all stages of the approval process as outlined in the Governance Manual. [Incorporated in #1]
- 6. Distance Learning (DL) Course Approval Process
 - a .Faculty member interested in developing a course utilizing DL technology seeks consultation with:
 - -1.Two or more faculty who are on the roster of DL advisors, and
 - -2.The staff of the New Media Design Team (NMDT).
 - b. These DL advisors and NMDT staff serve as sources of information and suggestions as well as sounding boards, during the development of the proposal. The final course proposal includes a memo from them indicating their agreement with the DL techniques to be used in the course.
 - c. Faculty member designates course proposal for distance learning and provides:
 - <u>1.Method of DL (video conference, e mail, etc).</u>
 - 2.References and/or supporting justification.
 - <u>3.Samples of course materials prepared for the method proposed.</u>
 - 4.DL advisor and NMDT memo, referred to in B. above.
 - d. Faculty member obtains approval from the originating department and other approvals as appropriate.
 - 1. Once approved, the course may be presented by that DL method, regardless of the instructor involved.
 - 2.If faculty members in the department request that a course be presented by a different DL method (web based instead of video conferencing, for instance), the new method of offering the course must again be approved by the DL Course Approval Process.

3.If the DL course is a new course, it continues through the University course approval process. If it is an existing course, departmental approval is sufficient.

e. Department chairperson has the responsibility to notify the Associate Provost for Academic Administration that the DL designation has been approved.

Attachment #2

Memorandum

To: Economics Faculty

- From: Dan Weinstein, Assistant Provost for Planning and Assessment
- RE: Economics Degree Specification example

Date: March 2, 2004

As you examine the four degree specification examples I've put together for you, please keep the following in mind:

- 1. These examples are purely for illustrative purposes. There's nothing implied by them.
- 2. The "measurable criteria" I wrote for you allow you to do a qualitative analysis of your students' performances. No targets have been identified, and you don't have to. You simply note your observations about what students are achieving and what they're not and compare notes at a department meeting, for example. It's what you agree on that's documented, along with what you'll do to adjust what, or how, you teach. That's it.
- 3. You do not have to assess every possible outcome in every cycle. You'll establish, say, four or five only for any given cycle (one academic year). You can look at different outcomes in subsequent cycles and eventually accrue a comprehensive list of degree level outcomes for economics (However, I must say that the list you provided me at our last meeting is excellent already.).
- 4. The intent of the "gen ed component" cell at this point (not having completed a cycle yet) is to "point out" the basic general education courses that economics majors take that provide students skills addressed by the given outcome. Once we complete a cycle, or two, we will have more decisive information to put into that cell.
- 5. Same with "related courses." "Related courses" are required related courses, any minors economics majors elect, advanced general education courses (such as "W" and "perspectives" courses). The point of these cells is to identify the coherence of the courses taken to complete the economics bachelor degree.
- 6. "Action plans" are placed in a floating box below. I don't you to have to articulate action plans for each outcome. I want you to have the freedom to take a holistic look at your outcomes collectively and decide what they mean. Then, you can identify action plans in a general sense.

Degree specification has the potential to show not only that the faculty are effectively teaching economics, but students are getting out of the instruction what's intended and the 120 credits they take to complete the degree make sense and are "coherent."

I hope that this example and brief explanation provide enough information for you to begin the degree specification process for the Economics Department.

School of Science and Mathematics Degree Specification Matrix 2003-04 Prepared by: Degree: B.S.

Computer Science Area/Unit:

Intended Student Outcomes/	Data Source	Connection to	Coherence Considerations		Results/Analyses
Measurable Criteria		Univ/Dept Mission	Gen Ed Component	Related Courses	
 CS graduates have an in-depth understanding of computer science, forming a foundation for competence in the computing profession. A majority of CS majors will demonstrate competence in solving a complex hardware problem in CSCI 270. 	Faculty established hardware problem	MU seeks to prepare its students to live in an increasingly diverse, multicultural and technologically complex society.	<u>G2</u> (technological literacy) CS majors take multiple courses in the sciences and math, including required CS courses	CS majors select from either physics, chemistry, earth science or biology to take as part of their required related courses. Knowledge of these disciplines	
A majority of CS majors will demonstrate ingenuity on a software engineering skills test in CSCI 330.	Faculty established software engineering skills test		and calculus. Advanced CS courses establish an in-depth knowledge, as well as vital skills.	will enhance a CS major's scope of scientific understanding.	
A majority of CS majors will indicate confidence in their in-depth understanding of computer science, on an exiting senior survey.	Faculty approved senior survey				
2) CS graduates have the analytical, conceptual and problem-solving skills necessary for computer professionals in business, industry, government and education. A majority of CS majors will demonstrate creativity in data related problem solving on three embedded items on the final exam in CSCI 362.	Faculty established embedded exam items	MU develops the capacity for leadership and decision-making in order to make the fullest possible contribution to society.	<u>G2 and G3</u> (scientific reasoning) CS majors take multiple courses that address their skills in scientific reasoning. CS majors take a minimum of four social science courses which help these students to enhance	CS majors are required to take math and natural/physical science courses. These courses enhance analytical and conceptual skills. CS majors have the option to take "perspectives"	
A majority of CS majors will be able to effectively integrate theory and practical knowledge on an application project in CSCI 440.	Faculty established project		students to enhance their problem-solving skills.	take "perspectives" courses that will also enhance the skills addressed by this outcome.	

Intended Student Outcomes/

Data Source

Connection to

Coherence Considerations

Results/Analyses

 3) CS graduates are able to think critically, communicate technical information effectively and learn independently. A majority of CS majors demonstrate effective critical thinking on an operating system applications test in CSCI 380. 	Faculty established operating system applications test	MU seeks to prepare its students to live in an increasingly diverse, multicultural and technologically complex society.	<u>G1, G2 and G3</u> (critical thinking and communication skills) CS majors develop critical thinking skills in science/math classes, as well as in the social sciences. Courses in the	CS majors are required to take math and natural/physical science courses. These courses help CS majors to think critically and more effectively in computer science.	
A majority of CS majors will demonstrate effective critical thinking in a written exercise in CSCI 425.	Faculty established written exercise		humanities and fine arts help CS majors to enhance their communication skills.	CS majors have the option to take additional "W" courses which will enhance their communication skills.	
 4) CS graduates demonstrate knowledge of ethical, social and legal issues related to the computing field. A majority of CS majors will demonstrate ethical decision making on a special project in CSCI 425. 	Faculty established special assignment	MU develops the capacity for leadership and decision-making in order to make the	<u>G3 and G4</u> (citizenship) CS majors develop values of good citizenship through all of their courses. The social sciences tend to focus on social values and citizenship, as well.	CS majors have the option to take "perspectives" and "W" courses. These students have the opportunity to explore the impact of ethics and common value systems on society.	
A majority of CS majors will demonstrate sensitivity to ethical and appropriate conduct as a computer professional, on an exiting senior survey.	Faculty approved senior survey		Advanced CS courses reinforce the importance to ethics in computing.		

Action Plans for 2004-05		
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School of Humanities and Social Sciences Degree Specification Matrix 2003-04

Area/Unit: Geography		Prepared by:	2003-04	Degree	B.A.
Intended Student Outcomes/ Measurable Criteria	Data Source	Connection to Univ/Dept Mission	Coherence Co		Results/Analyses
 Geography majors think critically about and recognize different perspectives on multiple environmental issues. 70% of geography majors will identify at least 3 viable perspectives for 2 environmental issues presented on a skills test in GEOG 488. 70% of geography majors will identify 2 viable solutions for 2 environmental issues presented on a skills test in GEOG 488. 80% of geography majors will indicate confidence in their ability to identify variations of perspectives of environmental issues, on a senior survey. 	Faculty established skills test Faculty established skills test Faculty established exiting senior	MU resolutely embraces the conviction that all of its degree programs must maintain a strong liberal arts component while preparing students to engage in productive and contributive lives as professionals.	Gen Ed Component G1,G2,G3 and G4 The courses that geography majors take in all of the G- blocks contribute to their fundamental skills of critical thinking and conceptualizing the perspectives of others. Advanced geography courses hone these skills.	Related Courses Geography majors have the option to take additional natural science and "perspectives" courses. Exposure to coursework in these areas may enhance the skills specified in this outcome.	
 2) Geography majors critically appraise and synthesize key theories and debates in contemporary urban planning. 70% of geography majors will score 75%, or higher, on an urban planning solution in a final project in GEOG 488. 70% of geography majors will score a 75%, or higher, on a final, synthesis, urban planning project. In GEOG 372. 	survey Faculty established urban planning skills test Faculty established urban planning project	MU seeks to prepare its students to live in an increasingly diverse, multicultural and technologically complex society.	<u>G2 and G3</u> Geography majors are required to take science and math courses, as well as social science courses. Students acquire fundamental skills in critical reasoning and theory application in these course and advanced geography courses hone these skills.	Geography majors have the option to take courses in sociology and psychology. Both disciplines provide exposure to and experience with theory application. Many courses in the earth sciences build parallel skills.	

Intended Student Outcomes/	Data Source	Connection to	Coherence Co	onsiderations	Results/Analyses
Measurable Criteria		Univ/Dept Mission	Gen Ed Component	Related Courses	

 3) Geography majors demonstrate scientific reasoning skills in their ability to identify all map types, and the information and steps required to produce them. 70% of geography majors will score 75%, or higher, on a final map compilation skills test in GEOG 281. 	Faculty established map compilation skills test	MU resolutely embraces the conviction that all of its degree programs must maintain a strong liberal arts component while preparing students to engage in productive and contributive lives as	<u>G1 and G2</u> Geography majors take courses in the humanities/fine arts and science/math. Coursework in these disciplines provide a strong basis for scientific reasoning, as well as skills in	Geography majors have the option to take courses in computer science and art. Exposure to these disciplines may enhance the skills specified by this outcome.	
80% of geography majors will indicate confidence in their ability to apply scientific reasoning to map identification/compilation, on a senior survey.	Faculty established exiting senior survey	professionals.	spatial perception.		
4) Geography majors effectively use continuity equations in developing solutions to hydrologic problems.	Faculty established hydrologic problem solving test	MU seeks to prepare its students to live in an increasingly diverse, multicultural and	<u>G2 and G3</u> Geography majors take science/math courses, as well as social science courses. These	Math 130 and 235 (statistics) are required related courses for geography majors.	
70% of geography majors will score 75%, or higher, on a hydrologic problem solving test in GEOG 488.		technologically complex society.	disciplines provide the fundamental skills these students need to later develop equations in	Geography majors have the option to take advanced math or statistics courses.	
65% of geography majors will score at least a 4/5 on each of two embedded continuity equation items on the final exam in GEOG 292.	Faculty established continuity equation embedded items		geography. Advanced geography courses hone these skills.		

Action Plans for 2004-05		
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