

Graduate Studies and Research
Western Kentucky University
Office of the Dean
745-2446

REPORT TO THE UNIVERSITY SENATE

DATE: December 2006
FROM: Graduate Studies

The Graduate Council submits the following items for consideration. Items marked with an asterisks [*] are information items. All other items are consent items:

I. One time Only

EDU 507- Geographic Concepts and Skills for Teachers*
FIN 436G- International Finance*

II. Create a Course

EDU 524- Educational Assessment
EDU 522- Foundations of Differentiated Instruction
EDFN 700- Research Design and Dissertation
GEOG 506- Geoscience Environmental Seminar
GEOG 543- Environmental Science Concepts
GEOG 587- Environmental Law, Regulations, and Policy
GEOG 517- Spatial Databases

III. Revise a Course

GEOG 419G- GIS Application Development

IV. Revise a Program

092- Master of Arts in Psychology
072- Master of Science in Geoscience

Proposal Date: 8-21-06

College of Education and Behavioral Sciences
Department of Curriculum & Instruction
Proposal to Create a New Course
Action Item

Contact Person: Lisa D. Murley, Ph.D. email: lisa.murley@wku.edu phone: 745-8822

1. Identification of proposed course

1.1 Prefix and Number: EDU 524

1.2 Title: Educational Assessment

1.3 Abbreviated title: Educational Assessment

1.4 Credit hours and contact hours: 3 credit hours/3 contact hours

1.5 Type of course: (L)-Lecture

1.6 Prerequisites, corequisites, and/or special requirements: None

1.7 Catalog course listing:

Study of assessment and evaluative techniques used by P-12 teachers, including norm-referenced and criterion-based data analyses that are utilized throughout the teaching and learning process.

2. Rationale

2.1 Reason for developing proposed course:

This course is designed for graduate students in elementary, middle, and secondary education leading to initial or advanced certification. Presently, no such course exists in this graduate program. Assessment concepts are presented in other graduate courses, but are addressed in a limited manner due to the precedence of other course content. The proposed course content, however, will focus on assessment techniques for P-12 teachers that will be presented through an in-depth assessment curriculum not provided in other courses in the Department of Curriculum and Instruction.

School district personnel and principals have expressed a need for teacher education programs to increase learning opportunities in assessment. This need has risen due to the increased accountability from reform efforts (No Child Left Behind, 2001; Kentucky Education Reform Act, 1990). Teachers must become proficient in analyzing student performance on local, state, and national assessments and subsequently design instruction based upon those results. The proposed course will seek to prepare students for this increased focus on assessment and accountability.

Western Kentucky University's graduate program is based upon The Kentucky Experienced Teacher Standards. This course will offer content that supports student mastery of *Standard VI: Assesses and Communicates Learning Results* along with an understanding and application of Kentucky's Core Content for Assessment Version 4.1.

Educational Assessment 524 is currently being taught as a one-time only offering with an enrollment of 25 students for the Fall 06 term. It is probable that the enrollment number is indicative of the increased focus on assessment for P-12 teachers.

2.2 Projected enrollment in the proposed course:

Based on enrollment in the one-time only offering, it is anticipated that 25 students will enroll per offering.

2.3 Relationship of the proposed course to courses now offered by the department:

It is anticipated that the proposed course will serve as a restrictive elective in the graduate program leading to initial or advanced certification in elementary, middle, and secondary education along with inclusion in the strategies component of the middle and secondary graduate programs.

The proposed course will offer a more in-depth study of assessment than other courses presently offered in the teacher education graduate program. ELED 505, Advanced Materials and Methods in Modern Mathematics for Elementary Teachers; ELED 506, Seminar in Elementary School Science; ELED 507, Advanced Materials and Methods in Social Studies; MGE 571, Middle School Curriculum; SEC 580, Curriculum; and EDU 544, Classroom Teaching Strategies offer assessment content, but cannot devote the time needed for in-depth assessment development and analyses as is the intent of the proposed course.

2.4 Relationship of the proposed course to courses in other departments:

Clearly, other courses in other departments address assessment topics linked to that course's particular content. For example:

PSY 643 Psychoeducational Assessment includes a focus on administering standardized tests for the purpose of evaluation of students referred for special education.

EXED 530 Advanced Assessment Techniques is targeted to special education assessment materials and methods, specifically focusing on interpreting standardized tests for Individual Education Plan development.

EDFN 500 Research Methods is designed to assist students in educational research, which includes reading and evaluating research materials.

IECE 521 Assessment in Interdisciplinary Early Childhood Education offers assessment learning experiences for students specializing in Early Childhood (i.e., birth through kindergarten).

Other courses in other departments that target assessment practices specific to that particular field of study include (but are not limited to): CNS 552, Testing and Assessment in Counseling; PE 515, Assessment in Physical Education; SWRK 573, Assessment and Case Management of Child Sex Abuse; PSY 561 Advanced Assessment in Educational Settings; and PSY, 560, Assessment of Cognitive and Intellectual Functioning.

The proposed course content, however, is unique in that it offers a rich, in-depth curriculum in educational assessment designed for P-12 classroom teachers.

2.5 Relationship of the proposed course to courses offered elsewhere:

Western Kentucky University is one of eleven teacher preparation institutions in ten states participating in The Renaissance Partnership Project, which is focused on improving the quality of their graduates. A review of assessment course offerings for P-12 teacher education graduate programs at these institutions found that six of the eleven universities offered courses similar to this proposed course. California State University at Fresno offers CI 260 Reflective Teaching; Eastern Michigan University offers CURR 650 Improving Instruction through Inquiry and Assessment; Idaho State University offers EDUC 622 Educational Assessment and Evaluation; Virginia's Longwood University offers EDUC 681 Foundations of Evaluation and Learning; Middle Tennessee University offers ELED 6620 Assessment of Teaching and Learning; and Pennsylvania's Millersville University offers EDSU 703 Curriculum and Supervision.

The elementary, middle, and secondary graduate program at Western Kentucky University seeks to offer students a rigorous and relevant curriculum. The proposed course will add a dimension to this program that is currently unavailable to our students, one that other teacher education programs are offering and obviously find valuable and useful for students.

3. Discussion of proposed course

3.1 Course Objectives:

Students will be able to:

- Analyze data from standardized test results and classroom student work samples.
- Design assessments based upon the Kentucky Core Content for Assessment Version 4.1.
- Identify mandates of the No Child Left Behind Act of 2001 Accountability System.
- Identify high stakes accountability aspects of the Kentucky Education Reform Act Assessment and Accountability.

- Design instruction based upon assessment results.
- Compare and contrast norm-referenced assessment and criterion-based Assessment.
- Identify and apply multiple methods of formative and summative assessments.
- Utilize technology to promote academic thinking and discussion.
- Utilize technology for data analysis.
- Identify and apply research-based instructional strategies and methods.
- Identify ethical testing procedures.
- Evaluate multiple data sources, synthesize results, and develop long range improvement strategies.

3.2 Course outline:

Some topics included in the proposed curriculum include state and federally mandated test result analyses, formative and assessment development and analyses, development of a grade level improvement plan using multiple sources of data, and writing high level test items.

- A. Crafting Classroom Assessments
 - Utilizing Classroom Decision Making
 - Setting Goals and Objectives
 - Planning for Assessment and Instruction
 - Writing Completion, Short-Answer, True-False, Multiple Choice, Matching, and Open Response Test Items
 - Crafting Performance Tasks, Projects, Rating Scales, and Scoring

Rubrics

- Using Diagnostic Assessments
- B. Preparing Students to Be Assessed
 - Utilizing Testwiseness
 - Identifying Test Anxiety Strategies
 - Identifying Good Test Preparation Strategies
- C. Using Classroom Assessments
 - Preparing Students for Assessment
 - Grading Student Progress
 - Assessing Higher Order Thinking
 - Assessing Problem Solving
 - Assessing Critical Thinking
- D. Interpreting and Using Standardized Tests
 - Understanding Standardized Achievement Tests
 - Analyzing CATS Data
 - Analyzing No Child Left Behind Data
 - Developing an Improvement Plan Based Upon Data Results

3.3 Student expectations and requirements:

Assessment of student learning will be based on a combination of assignments and exams, including some or all of the following:

- Online discussion of selected assessment journal articles
- Data analysis project
- Written unit test blueprint development
- Assessment plan development
- Test item development
- Research paper
- Course content quizzes
- Final exam
- Regular class attendance
- Participation in class discussion and class activities

3.4 Tentative texts and course material:

Required Textbooks:

Nitko, A. & Brookhart, S. (2007). *Educational assessment of students* (5th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Association For Supervision and Curriculum Development (2005).
Assessment to Promote Learning. *Educational Leadership*, 63(3).

Recommended Texts:

Kentucky Department of Education. (2006). *Program of studies, core content for assessment, & academic expectations*. Frankfort, KY: Author.

Kentucky Department of Education. (2006). *Core content for assessment 4.1.*,
Frankfort, KY: Author.

4. Resources

4.1 Library resources:

The library has indicated that current resources are adequate to support this course. Currently, all but two of the resources listed on the bibliography can be found in the university library, and those two resources will be purchased. See attached library form.

4.2 Computer resources:

The College of Education and Behavioral Sciences has adequate computer resources for faculty and student support.

5. Budget Implications

5.1 Proposed method of staffing:

Graduate faculty in Curriculum and Instruction will teach this course.

5.2 Special equipment needed:

No special equipment is needed for this course.

5.3 Expendable materials needed:

No expendable materials are needed for this course.

5.4 Laboratory supplies needed:

No laboratory supplies are needed for this course.

6. Proposed term for implementation: Spring, 2007

7. Date of prior committee approval:

Department of Curriculum and Instruction	<u>8-21-06</u>
CEBS Curriculum Committee	<u>10-03-06</u>
Professional Education Council	<u>10-11-06</u>
Graduate Council	<u>11-09-06</u>
University Senate	_____

Bibliography

Anderson, L. (2003). *Classroom assessment: Enhancing the quality of teacher decision making*. Mahwah, NJ: L. Erlbaum Associates.

Arter, J. & McTighe, J. (2001). *Scoring rubrics in the classroom*. Thousand Oaks, CA: Corwin Press.

Bloom, B., Madaus, G. & Hastings, J. (1981). *Handbook on formative and summative evaluation of student learning*. New York: MacGraw-Hill.

Hales, L. & Marshall, J. (2004). *Developing effective assessments to improve teaching and learning*. Norwood, MA: Christopher-Gordon Publishing.

Kentucky Department of Education. (2006). *CATS assessment support*. Retrieved September 6, 2006.
<http://www.education.ky.gov/KDE/Administrative+Resources/Testing+and+Reporting+/District+Support/Tools+and+Resources/Downloads.htm>

Kentucky Department of Education. (2000). *Results matter*. Retrieved September 6, 2006

From <http://www.education.ky.gov/NR/rdonlyres/eof42hocouhmcq6fl3qrwuvl5667u3xycbb6ongnfb4mzlo4ru37iwneiku2qoefofun6f67vni7oiy5q75fula27pb/10thAnniversaryReport.pdf?SUBMIT=Search>

- Marzano, R., Pickering, D., and McTighe, J. (1993). *Assessing student outcomes: Performance assessment using dimensions of learning model*. Alexandria, VA: ASCD.
- Mertler, C. (2003). *Classroom assessment: A practical guide for educators*. Los Angeles: Pyczak Publishing.
- National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: U.S. Government Printing Office.
- Pankratz, R., & Petrosko, J. (Eds.). (2000). *All children can learn*. San Francisco: Jossey-Bass.
- Popham, J. (2003). *Test Better, Teach Better*. Alexandria, VA: ASCD.
- Stiggins, R. (1997). *Student-centered classroom assessment. Second Edition. Upper Saddle River, NJ: Prentice-Hall*.
- Strong, R., Silver, H., & Perin, M., (2001). *Teaching what matters most: Standards and strategies for raising student achievement*. Alexandria, VA: ASCD.
- United States Department of Education. (2002). *No child left behind: A desktop reference*. Washington, D.C.: Author.

Professional Journals

Action in Teacher Education
American Educational Research Journal
American Journal of Education

Educational Assessment
Educational Evaluation and Policy
Analysis
JEM, Journal of Educational
Measurement
Journal of Education
Journal of Educational Research
Journal of General Education
Journal of Teacher Education
Kappa Delta Pi Record
Phi Delta Kappan
Review of Educational Research
Teacher Educator
Teacher Magazine
Theory into Practice
U.S.A. Today (Society for the
Advancement of Education)
Childhood Education
Elementary School Journal
High School Journal
Journal of Research in Childhood
Education
Middle School Journal
YC: Young Children

Proposal Date 8/21/06

**College of Education and Behavioral Sciences
Department of Curriculum and Instruction
Proposal to Create a New Course
(Action Item)**

Contact Person: Judy C. Davison; Email: judy.davison@wku.edu; Phone: 270-745-3551

1. Identification of proposed course

- 1.1 Prefix and number: EDU 522
- 1.2 Title: Foundations of Differentiated Instruction
- 1.3 Abbreviated title: Differentiated Instruction

1.4 Credit hours and contact hours: 3/3

1.5 Type of course: (L)-Lecture

1.6 Prerequisites, corequisites, and/or special requirements: None

1.7 Catalog course listing:

Designing a qualitatively different instruction for students with varying abilities, interests, learning profiles, and affect within the regular classroom experience.

2. Rationale

2.1 Reason for developing the proposed course:

The Kentucky Experienced Teacher Standards are performance based and must be an integral part of graduate education programs. Several of those standards address the expectation that teachers will tailor instruction to the specific needs of students. However the following standards will receive the most emphasis within this course content:

Standard 2	Demonstrates Knowledge of Content
Standard 3	Designs/Plans Instruction.
Standard 4	Creates/Maintains Learning Climate.
Standard 5	Implements/Manages Instruction
Standard 6	Assesses and Communicates Learning Results.

In particular, content will address differences in learning abilities and styles as well as integration of multicultural curriculum into classroom environment and instruction at P-12 grade levels. This content is not covered in depth in any other courses within the program. This EDU 522 course was offered on a 1-time only basis to a new MAE cohort in summer 2005. Feedback from a survey of the 20 students who took the course was very positive, indicating that the content was appropriate and very beneficial to their professional growth.

2.2 Projected enrollment for the proposed course:

Based on enrollment in the one-time only offering and the current enrollment of the EDU 501: Seminar: Designing the Professional Development Plan course, it is anticipated that 20 students will enroll per offering.

2.3 Relationship of the proposed course to courses now offered by the department:

Differences in the proposed course are as follows:

The proposed EDU 522: Foundations of Differentiated Instruction synthesizes theoretical and practical knowledge of diverse learners by creating a unit of study

that incorporates strategies for addressing all multiple intelligences, specific disabilities and giftedness, gender sensitivities, and cultural awareness. The EDU 544: Teaching Strategies & SEC 580: The Curriculum courses in the program focus on a theoretical understanding of Models of Teaching and Curriculum respectively, whereas this course encompasses classroom applications of best practices. The GTE 537: Curriculum, Strategies, & Materials for Gifted Students contains content related to the gifted population. However, it is only noted as an elective offering to middle grades and secondary MAE students. EDU 522 includes a broader spectrum of students, not just gifted and talented.

The MGE 571: Middle Grades Curriculum and ELED 503: Organization of the Elementary School Curriculum are also more theoretical in content and includes little multicultural awareness whereas, in this proposed EDU 522 course, students will critically access their own biases and multicultural awareness and learn to implement best practices.

2.4 Relationship of the proposed course to courses offered in other departments:

No other departments on campus offer a duplicate graduate course. The EXED 516: Exceptional Child course focuses primarily on students with disabilities. The EDU 522 course encourages a thematic approach to teaching a broader base of diverse learners. It would also be appropriate for individuals who have been out of teaching for an extended period of time or are obtaining the alternate certification/MAE exceptional education or secondary education.

2.5 Relationship of the proposed course to courses offered elsewhere:

This course has content similar to courses at University of Kentucky (EPE 665: Education and Culture, EPE 667: Education and Gender); University of Louisville (EDTL 503: Developing Cross-Cultural Competence: Teaching Students from Diverse Backgrounds, EDTP 505: Challenging Advanced Learners, EDSP 545: Exceptional Child in the Regular Classroom); Eastern Kentucky University (EMS 830: Multicultural Populations and School Curriculum; EMS 855 Gifted and Talented Youth; SED 800 Exceptional Learners in Regular Classroom), Murray State (EDU 692: Methods and Materials for Teaching Gifted Students, EDU 695: Multicultural Gifted Education), and Northern Kentucky (EDG 601: Cultural & Learning Diversity). However, each of those courses addresses only one aspect of diversity found in our student population (cultural, learning disabilities, or gifted). Our graduate students need this fundamental course that incorporates needs of a diverse population of K-12 students. An advantage of this course is that, instead of focusing on just one population, it will include content that addresses all the populations noted in individual courses at other institutions.

3. Description of proposed course

3.1 Course Objectives:

- Recognize the specific needs of children with learning and behavioral disabilities and apply accommodations for such children in educational planning for the regular classroom setting.
- Develop awareness and collaborative skills in working with education professionals who are instrumental in diagnosis, treatments, and designing accommodations within and outside of the regular classroom.

- Develop pre-assessments for learning preferences/styles and abilities
- Identify the specific needs of children who are gifted or talented and apply accommodations for such children in educational planning for the regular classroom setting.
- Examine teaching settings and devise educational approaches appropriate to the context of specific populations.
- Synthesize knowledge of diverse learners in designing units of study that incorporate strategies for multiple intelligences, disabilities, gifted or talented, gender sensitivities, and cultural awareness.
- Develop multiple post assessments that match learning objectives to specific learning styles and abilities.
- Evaluate materials/books/classroom environments for evidence of multicultural awareness.
- Design multicultural curriculum that will be implemented in a real classroom setting.

3.2 Content outline:

Differentiated instruction as best practice in teaching. Theoretical foundations.

Identification of common affective and cognitive characteristics of diverse learners.

- Thinking Styles
- Learning Styles
- Multiple Intelligences & Emotional Intelligences
- Pre and post test procedures used to evaluate achievement and interests

Instructional Differentiation Approaches

- Strategies/Content/Assessment
- Content, Process, Products

Stereotypes

- Assumptions & Bias
- Labeling
- Racism

Populations, Learning, and Legal Considerations related to the following groups

- High Incidence Disabilities
- Gifted and Talented
- Twice Exceptional
- Gender Differences
- English Language Learners
- Multicultural Awareness (Ethnic and SES)
- Multicultural Curriculum

Creating a learning environment that is student centered, considering background and interests.

- Evaluating current learning environments for Multicultural awareness.
- Designing a unit of study that includes instructional and intervention best practice strategies for learners with varying abilities, backgrounds, and learning styles.

3.3 Student Expectations and Requirements:

Assessment of student learning will be based on a combination of assignments and exams, including some or all of the following:

- Units of study that incorporate strategies for accommodating multiple intelligences, learning styles, disabilities, gifted or talented, gender sensitivities, and cultural awareness.
- Multicultural assessments on classroom environment and/or materials used.
- Reading Reflections on articles and/or case studies
- Exams
- Research Papers

3.4 Tentative texts and course materials:

Required:

Tomlinson, C.A. (2003). *Fulfilling the promise of the differentiated classroom: Strategies and tools for responsive teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Gregory, G.H. & Chapman, C. (2002). *Differentiated instructional strategies: One size doesn't fit all*. Thousand Oaks, CA: Corwin Press, Inc.

Recommended:

Tiedt, P. & Tiedt, I. (2005). *Multicultural teaching: A handbook of activities, information, and resources*. Boston: Allyn and Bacon.

Winebrenner, S. (2006). *Teaching kids with learning difficulties in the regular classroom: Strategies and techniques every teacher can use to challenge & motivate struggling students*. Minneapolis, MN: Free Spirit Publishing.

U.S. Office of Migrant Education (2001). *The Help! kit: A resource guide for elementary teachers of migrant English language learners*. Oneonta, NY: ESCORT.

U.S. Office of Migrant Education (2001). *The Help! kit: A resource guide for secondary teachers of migrant English language learners*. Oneonta, NY: ESCORT.

4. Resources

4.1 Library resources: Present holdings are adequate

4.2 Computer resources: None

5. Budget Implications

5.1 Proposed method of staffing:
Present faculty will teach this course.

5.2 Special equipment needed:
No additional equipment is needed in support of this course.

5.3 Expendable materials needed:
No expendable materials are needed in support of this course.

5.4 Laboratory supplies needed:
No laboratory supplies are needed in support of this course.

6. Proposed term for implementation
Spring 2007

7. Dates of prior committee approvals:

Department of Curriculum and Instruction	<u>8/21/06</u>
CEBS Curriculum Committee	<u>10/03/06</u>
Professional Education Council	<u>10/11/06</u>
Graduate Council	<u>11/09/06</u>
University Senate	_____

Bibliography

- Andrews, L. (2002) Curriculum development for multicultural and multilingual students. *Multicultural Education*; 9 (3); 15-18.
- Armstrong, T. (2000). *Multiple Intelligences in the Classroom*, 2nd ed. Alexandria, VA: Association for Supervision and Curriculum Development.
- Banks, J. A., Cookson, P., Gay, G., Hawley, W. D., Irvine, J. J., Nieto, S., Schofield, J. W., Stephan, W. G. (2001). Diversity within unity: Essential principles for teaching and learning in a multicultural society. *Phi Delta Kappan*; 83 (3); 196-202.
- Barnes-Robinson, L., Jeweler, S., Shevitz, B., & Weinfeld, R. (2003). Mentoring empowers gifted/learning-disabled students to soar! *Roeper Review*; 26 (1); 37-45.
- Baum, S.M., Cooper, C.R. & Neu, T.W. (2001). Dual differentiation: An approach for meeting the curricular needs of gifted students with learning disabilities. *Psychology in the Schools*; 38 (5); 477-490.
- Beilke, P. F. (2000). Implementing multicultural and global studies: Selected resources about materials and their uses by teacher educators, in service providers, and K-12 educators. *Teacher Educator*, 36 (1); 70-84.
- Bergen, D. (2001/02). Differentiating curriculum with technology-enhanced class projects. *Childhood Education*; 78 (2); 117-118.
- Blackbourn, J.M., Bryant, R., Dean, M., & Elrod, G.F. (1999). Rural general education: Teachers' opinions of adaptations for inclusive classrooms. *Rural Special Education Quarterly*; 18 (1); 1-9.
- Bohn, A. P. & Sleeter, C. E. (2000). Multicultural education and the standards movement: A report from the field. *Phi Delta Kappan*; 82 (2); 156-159.
- Brandt, R. (2001). No best way: The case for differentiated schooling. *Phi Delta Kappan*; 83 (2); 153-155
- Brimfield, R., DeFiore, D. & Masci, F. (2002). Differentiating instruction to teach all learners. *Middle School Journal*; 33 (3); 14-1.
- Bursack, W.D., Epstien, M.H. & Polloway, E.A. (2003) Testing adaptations in the general education classroom: challenges and directions. *Reading and Writing Quarterly*; 19 (2); 198-192.
- Cobb, C. D. & Mayer, J. D. (2000). Emotional intelligence: What the research says. *Educational Leadership*; 58 (3);

14-18.

- Colangelo, N. & Davis, G.A. (2003). *Handbook of Gifted Education*. Boston, MA: Allyn and Bacon.
- Cramond, B., Benson, L. & Martin, C. (2002). Serving gifted students through inclusion. *Roeper Review*; 24 (3); 125-126.
- Edwards, R.P. & Rabian, B. & Scattone, D. & Wilczynski, S.M. (2002). Decreasing disruptive behaviors of children with autism using social stories. *Journal of Autism and Developmental Disorders*; 32 (6); 535-543.
- Fiedler, E. D., Lange, R. E., & Winebrenner, S. (2002). In search of reality; Unraveling the myths about tracking, ability grouping, and the gifted. *Roeper Review*; 24 (3); 108-111.
- Ford, D. & Harris, J. (1999). *Multicultural Gifted Education*. New York, NY: Teachers College Press.
- Gentry, M., Rizza, M. G., Gable, R. K. (2001) Gifted students' perceptions of their class activities: Differences among rural, urban, and suburban student attitudes. *Gifted Child Quarterly*; 45 (2); 115-129.
- Gentry, M., Rizza, M.G. & Owen, S.V. (2002). Examining perceptions of challenge and choice in classrooms: The relationship between teachers and their students and comparisons between gifted students and other students. *Gifted Child Quarterly*; 46 (2); 145-155.
- Gould, H.C. (2000). Can we meet standards [and] encourage teachers to differentiate for the highly able? *NASSP Bulletin*; 84 (615); 74-79.
- Henley, M. & Long, N.J. (1999) Teaching emotional intelligence to impulsive-aggressive youth. *Journal of Emotional and Behavioral Problems*; 7 (4); 224-229.
- Howley, C.B. & Howley, A.A. (2002). A personal record: Is acceleration worth the effort? *Roeper Review*; 8 (1); 134-136.
- Johnson, A. (2001). How to use thinking skills to differentiate curricula for gifted and highly creative students. *Gifted Child Today*; 24 (4); 58-65.
- Kennedy, Dorothy M. (1995). Glimpses of a highly gifted child in a heterogeneous classroom *Roeper Review*; 17 (3); 164-166.
- Lewis, G. (2002). Alternatives to acceleration for the highly gifted child. *Roeper Review*; 24 (3); 130-133.
- Liff, S.B. (2003). Social and emotional intelligence: Applications for developmental education. *Journal of Developmental Education*; 26 (3); 28-34.
- Maag, J.W. & Reid, R. (1998). Functional assessment: A method for developing classroom-based accommodations and interventions for children with ADHD. *Reading and Writing Quarterly*; 14 (1); 34-57.

- Magner, L. (2000) Reaching all children through differentiated assessment. *Gifted Child Today*; 23 (3); 48-50.
- Martin, M.A. & Martin S.H. (2001) Using literature response activities to build strategic reading for students with reading difficulties. *Reading Improvement*; 38 (2); 85-93.
- Marulis, L. (2000) Anti-bias teaching to address cultural diversity. *Multicultural Education*; 7 (3); 27-31.
- Mildrum, N.K. (2000). Creativity workshops in the regular classroom. *Roeper Review*; 22 (3); 162-164.
- Moll, A. (2003). *Differentiated Instruction Guide for Inclusive Teaching*. Port Chester, NY: Dude Publishing.
- Montague, M. & Warger, C. (1997). Helping students with attention deficit hyperactivity disorder succeed in the classroom. *Focus on Exceptional Children* 30; (4); 1-16.
- Moon, S. M., Swift, M., & Shallenberger, A. (2002). Perceptions of a self-contained class for fourth- and fifth-grade students with high to extreme levels of intellectual giftedness. *Gifted Child Quarterly*; 46 (1); 64-79.
- Olenchak, F. R. (2001) Lessons learned from gifted children about differentiation. *Teacher Educator*; 36 (3); 185-198.
- Page, S.W. (Sept. 2000) When changes for the gifted spur differentiation for all. *Educational Leadership*; 58 (1); 62-65.
- Pavri, S. & Luftig, R. (2000). The social face of inclusive education: Are students with learning disabilities really included in the classroom? *Preventing School Failure*; 45 (1); 8-14.
- Pfeiffer, S.I. (2001). Emotional intelligence: popular but elusive construct. *Roeper Review*; 23 (3); 138-142.
- Rayneri, L.J., Gerber, B.L. & Wiley, L.P. (2003). Gifted achievers and gifted underachievers: The impact of learning style preferences in the classroom. *Journal of Secondary Gifted Education*; 14 (4); 197-204.
- Safran, J.S. (2002) Supporting students with asperger's syndrome in general education. *Council for Exceptional Children*; 34 (5); 60-66.
- Schlozman, S.C. & Schlozman, V.R. (2000). Chaos in the classroom: Looking as ADHD. *Educational Leadership*; 58 (3); 38-43.
- Shields C.M. (2002) A Comparison study of student attitudes and perceptions in homogeneous and heterogeneous classrooms. *Roeper Review*; 24 (3); 115-119.
- Smith, K. & Wertz, M. (2003). Problem solving and gifted education: A differentiated fifth-grade fantasy unit. *Gifted Child Today*; 26 (3); 56-60.

- Sullivan, A.K. & Strang, H.R. (2002/03). Bibliotherapy in the classroom: Using literature to promote the development of emotional intelligence. *Childhood Education*; 79 (2); 74-80.
- Tiedt, P. and Tiedt, I. (2005). *Multicultural Teaching: A Handbook of Activities, Information, and Resources*. Boston: Allyn and Bacon.
- Tomlinson, C. A. (1998) For integration and differentiation choose concepts over topics. *Middle School Journal*; 30 (2); 3-8.
- Troxclair, D.A. (2000). Differentiating instruction for gifted students in regular education social studies classes. *Roeper Review*, 22 (3); 195-198.
- Tyler W. & Tandra L. (2000). An effective mathematics and science curriculum option for secondary gifted education. *Roeper Review*, 22 (4); 266-269.
- Uresti, R., Goertz, J. & Bernal, E.M. (2002). Maximizing achievement for potentially gifted and talented and regular students in a primary classroom. *Roeper Review*, 25 (1); 130-133.
- Weinfeld, R. & Barnes-Robinson, L. (2002). Academic programs for gifted and talented/learning disabled students. *Roeper Review*, 24 (4) 226-233.
- Winebrenner, S. (2006). *Teaching kids with learning difficulties in the regular classroom: Strategies and techniques every teacher can use to challenge & motivate struggling students*. Minneapolis, MN: Free Spirit Publishing.
- Winebrenner, S. (2001). *Teaching gifted kids in the regular classroom: Strategies and techniques every teacher can use to meet the academic needs of the gifted and talented*. Minneapolis, MN: Free Spirit Publishing.

College of Education and Behavioral Sciences
Department of Educational Administration, Leadership, and Research
Proposal to Create a New Course
(Action Item)

Contact Person: Ric Keaster, ric.keaster@wku.edu, 745-7088

1. Identification of proposed course:

- 1.1 Course prefix (subject area) and number: EDFN 700
- 1.2 Course title: Research Design and the Dissertation
- 1.3 Abbreviated course title: Res. Design and Dissertation
- 1.4 Credit hours: 3 Hours
- 1.5 Type of course: S
- 1.6 Prerequisites/corequisites: EDFN 601 and EDFN 603. Restricted to doctoral students who have completed the majority of their coursework, and have completed the comprehensive examination or are within six (6) hours of the examination.
- 1.7 Course catalog listing: Includes research proposal process, parts of a doctoral dissertation, steps in the dissertation process, use of APA style, library searches, avoiding plagiarism, and scholarly writing process.

2. Rationale:

- 2.1 Reason for developing the proposed course: By the time doctoral students are ready to begin the process of formulating the research problem, research questions, and research design for the dissertation, it has often been several years since they had a basic research course. Students find it difficult to begin working on the dissertation without a refresher in scholarly writing and research methodology. The proposed course will increase exposure of doctoral students to written journal articles, dissertations, and the application of research designs in studies in education and the social sciences. Students will participate in discussions about research articles and have opportunities to see the rationale for research used in the studies as well as become familiar with the dissertation process and procedures before they are required to begin their own dissertations. Discussions will help clarify the research questions and methodology for their own research topics. It would be an opportunity to integrate the methodologies learned in other courses with their application to the student's own major research project. It would help in reading and understanding methodology and results sections of studies, which will be read and integrated into the review of literature for the dissertation. It will help students get started with thinking and applying their knowledge of research on a particular topic to a project of their own. It will clarify procedures involved in the dissertation process. The course was offered as a "one time only" in the fall semester of 2005.
- 2.2 Projected enrollment in the proposed course: Enrollment would be limited to students in the doctoral program. Currently, with the Cooperative

Doctoral Program with University of Louisville, the projected enrollment would be about 10 students per year (per offering). The projection is based on admissions to that program of an average of about 10 students per year. Upon approval of an Ed.D. program at Western Kentucky University, the projected enrollment would eventually increase to the average number of students admitted to that program per year. This number could be twenty or more.

- 2.3 Relationship of the proposed course to courses now offered by the department: The proposed course would be a culminating event in the coursework of the doctoral student. Many courses in the program, especially those in the research and statistics sequence, support the successful completion of this course. The current course fits into the following sequence of courses within the program: EDFN 601 (Applied Statistical Techniques and Research Designs in Education), EDFN 603, Advanced Quantitative Research Course or EDFN 703 (Proposed), EDFN 700, ELFH 780 (Problem Analysis in Educational Leadership I), and ELFH 781 (Problem Analysis in Educational Leadership II) - (ELFH courses are University of Louisville courses).
- 2.4 Relationship of the proposed course to courses offered in other departments: The proposed course will not have a counterpart in any other department at the university, since there are no other doctorates being offered at the university.
- 2.5 Relationship of the proposed course to courses offered in other institutions: Courses similar to this course are offered at other universities offering the doctoral degree. Similar courses exist at other institutions for the purpose of reviewing research methodology as well as scholarly writing. The following are examples:

University of Kentucky – EDL 792 (Research in Educational Administration and Supervision) – emphasizing an ‘appropriate problem in educational administration and . . . generating a design appropriate to the problem;’ EDL 651 – ‘study of assumptions and procedures of systematic inquiry. . . regarding both quantitative and qualitative models. . .’

University of Louisville – ELFH 700 (Research Concepts and Design) – ‘explores the logic of inquiry and examines and critiques a wide variety of research approaches’

Bowling Green State University – EDFI 750 (Quantitative Research and Statistical Methods in Leadership Studies) – ‘application and utilization of basic research methods . . . development of a research proposal and data analysis’

University of Southern Mississippi – REF 889 (The Dissertation Process) – ‘the process of committee selection, topic selection, research, and writing of the dissertation, including study of APA format and format of the pre-proposal, proposal, and final dissertation.’

3. Discussion of proposed course:

3.1 Course objectives:

- Demonstrate an understanding of the scientific method as applied to research in education.
- Demonstrate an understanding of different ways to classify research methodology.
- Retrieve information from library and Internet resources relevant to a research question.
- Demonstrate competency in evaluating educational research reports.
- Demonstrate understanding and application of basic statistical results in the research literature.
- Demonstrate understanding and application of qualitative research methods in the research literature.
- Demonstrate skill in reviewing literature relevant to a specific research question.
- Incorporate information from empirical research reports into a cohesive review of literature.
- Demonstrate skill in writing in a scholarly manner.
- Produce a pre-proposal with a research design appropriate for the research question.
- Demonstrate the ability to match research design and procedures to possible research questions.
- Demonstrate appropriate use of APA guidelines for scholarly writing.
- Produce a plan with timeline for the completion of the dissertation study.

3.2 Content outline: Topics will include the following:

- Research problem and hypothesis
- Finding a research problem
- Advanced Library Research
- Locating and reviewing the literature
- Ethical, legal, and human relations issues
- Evaluation and action research
- Analysis of quantitative and qualitative methods in the literature: descriptive and inferential statistics, measurement, sampling, tests and self-report measures, case studies/ethnographies/narratives, questionnaires and interviews, observation and content analysis
- Parts of the dissertation
- Procedures in planning the study
- Selecting statistical analysis
- APA style
- Scholarly writing: Avoiding plagiarism
- Developing the proposal

- Procedures for proposal and dissertation defenses
- Writing the dissertation

3.3 Student expectations and requirements: The course will be structured as a seminar. Students will read dissertations and journal articles in their area of focus and present them to the group for discussion. There will be extensive reading on writing style, dissertations, methodology, research design, and parallel discussions in class. Students will produce, in several iterations, a prospectus for their research topic of choice. Completion of all planned activities will be required. The grade will be a composite of assessments on the presentations and the final prospectus.

3.4 Tentative texts and course materials:

American Psychological Association. (2001). *Publication Manual of the American Psychological Association*, (5th ed.). Washington, DC: Author.

Bogdan, R., & Biklen, S. (2003). *Qualitative research for education: An introduction to theory and methods*. Needham Heights, MA: Allyn & Bacon.

Gall, M. D., Gall, J. P. & Borg, W. R. (2003). *Educational research: An introduction* (7th ed.). Boston, MA: Allyn & Bacon.

Glatthorn, A. A., & Joyner, R. L. (2005). *Writing the winning thesis or dissertation: A step-by-step guide* (2nd ed.). Thousand Oaks, CA: Corwin Press.

Thomas, R. M. (2003). *Blending qualitative and quantitative research methods in theses and dissertations*. Thousand Oaks, CA: Corwin Press.

4. Resources:

4.1 Library resources: The proposed course will require the use of existing university library databases and journal holdings. The only purchase that will need to be made will be full access for our students to UMI Proquest Digital Dissertations (full-text online). President Ransdell has publicly stated that \$225,000 will be provided in the budget for the new doctoral program and Dr. Burch has said that this service is essential for the doctoral program. No additional purchases will be needed.

4.2 Computer resources: Current computer and other technology resources are adequate to deliver the course. No additional resources are necessary.

5. Budget implications:

- 5.1 Proposed method of staffing: Present faculty in EALR will staff the course.
- 5.2 Special equipment needed: There will be no additional resource requirements.
- 5.3 Expendable materials needed: There will be no additional resource requirements.
- 5.4 Laboratory materials needed: There will be no additional resource requirements.

6. Proposed term for implementation: Spring 2007

7. Dates of prior committee approvals:

Educational Administration, Leadership
and Research:

_____10/10/06_____

CEBS Curriculum Committee

_____11/7/06_____

Graduate Council

_____11/9/06_____

University Senate

Attachment: Bibliography, Library Resources Form, Course Inventory Form

Bibliography for EDFN 700

- American Psychological Association. (2001). *Publication manual of the American Psychological Association*, (5th ed.). Washington, DC: Author.
- Bogdan, R. & Biklen, S. (2003). *Qualitative research for education: An introduction to theory and methods*. Needham Heights, MA: Allyn & Bacon.
- Bryant, M. T. (2004). *The portable dissertation advisor*. Thousand Oaks, CA: Corwin Press.
- Creswell, J. W. (1998). *Qualitative inquiry and research design. Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Davis, G. B. (1997). *Writing the doctoral dissertation*. Hauppauge, NY: Barron's Educational Series, Inc.
- Denzin, N. K. & Lincoln, Y. S. (2000). *Handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Ely, M. (1991). *Doing qualitative research: Circles within circles*. London: Falmer Press.
- Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry. A guide to methods*. Newbury Park, CA: Sage.
- Fraenkel, J. R. & Wallen, N. E. (2006). *How to design and evaluate research in education* (6th ed.). New York: McGraw-Hill.
- Gall, M. D., Gall, J. P. & Borg, W. R. (2003). *Educational research: An introduction* (7th Ed.). Boston, MA: Allyn & Bacon.
- Glatthorn, A. A. & Joyner, R. L. (2005). *Writing the winning thesis or dissertation: A step-by-step guide* (2nd ed.). Thousand Oaks, CA: Corwin Press.

Glesne, C. & Peshkin, A. (1992). *Becoming qualitative researchers: An introduction*. New York: Longman.

Heppner, P. P. & Heppner, M. J. (2004). *Writing and publishing your thesis, dissertation, and research: A guide for students in the helping professions*. Belmont, CA: Brooks/Cole-Thomson Learning.

Kerlinger, F. N. (1973). *Foundations of behavioral research* (2nd ed.). New York: Holt, Rinehart & Winston.

Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Lincoln, Y. S. & Denzin, N. K. (Eds.). (2003). *Turning points in qualitative research*. New York: Altamira Press.

Marshall, C. & Rossman, G. B. (1989). *Designing qualitative research*. Newbury, Park, CA: Sage.

Meloy, J. M. (1994). *Writing the qualitative dissertation. Understanding by doing*. Hillsdale, NJ: Lawrence Erlbaum.

Roberts, C. M. (2004). *The dissertation journey: [A practical and comprehensive guide to planning, writing, and defending](#)*. Thousand Oaks, CA: Corwin Press.

Rudestam, K. E. & Newton, R. R. (2001). *Surviving your dissertation: A comprehensive guide to content and process*. Thousand Oaks, CA: Sage Publications, Inc.

Sternberg, D. (1981). *How to complete and survive a doctoral dissertation*. St. Martin's Press.

Wiersma, W. & Jurs, S. G. (2005). *Research methods in education: An introduction* (8th ed.). Needham Heights, MA: Allyn & Bacon.

Numerous online resources:

<http://www.cwrl.utexas.edu/~syverson/basicinfo/diagnostics.html>

<http://graduate.louisville.edu/forms/dissertation.pdf>

http://www.gse.buffalo.edu/DC/LAI/LAI_doc7.htm

<http://www.tele.sunyit.edu/reading3-3-1.html>

<http://www.tele.sunyit.edu/delimitationsandlimitations.htm>

<http://www.geocities.com/CollegePark/1150/writing.html>

<http://www.cs.purdue.edu/homes/dec/essay.dissertation.html>

<http://pdc.csusb.edu/APAWritingStyle.htm>

<http://globetrotter.berkeley.edu/DissPropWorkshop/style/clarity.html>

<http://www.learnerassociates.net/dissthes/#1>

<http://www.ucalgary.ca/~hexham/study/plag.html>

<http://www.lib.usm.edu/research/plag/whatisplag.php>

<http://sja.ucdavis.edu/avoid.htm#guidelines>

<http://nutsandbolts.washcoll.edu/plagiarism.html>

<http://www.lib.usm.edu/research/plag/pretest.php>

<http://www.web-miner.com/plagiarism>

<http://www.apastyle.org/styletips.html>

<http://www.apastyle.org/faqs.html>

<http://www.wooster.edu/psychology/apa-crib.html>

http://plagiarismtest.org/plagiarism/apa_test.html

http://nhnh.essortment.com/dissertation_rdfd.htm

http://www.asgs.org/Annl_Svy.html

<http://wwwlib.umi.com/dissertations/gateway>

www.pitt.edu/~graduate/dissadvisor.html

<http://www.nova.edu/ssss/QR/QR2-4/hernandez.html>

<http://www.uvm.edu/~gradcoll/thesiscommittee.html>

Proposal Date: 8/20/2006

Ogden College
Department of Department of Geography and Geology
Proposal to Create a New Course
(Action Item)

Contact Person: John All e-mail: john.all@wku.edu Phone: 5-5975

1. Identification of proposed course

Prefix and number: GEOG 506

Title: Geoscience Environmental Seminar

Abbreviated title: Environmental Seminar

Credit hours: 1 hour (repeatable twice for a maximum of 3 hours credit)

Type of course: S (Seminar)

Prerequisites: None

Catalog course listing:

Designed for future environmental practitioners, this course will provide real world examples of environmental science jobs and research projects. The course will impart a broad understanding of environmental science from a multi-disciplinary perspective. Required for the MS Environmental Science emphasis degrees.

2. Rationale

- Reason for developing the proposed course:

As a vital part of a new interdisciplinary MS Environmental Science degree focus in Geoscience, this course is intended to give students a vision of the opportunities available within this field of study. It is also intended to stimulate discussion from the wide variety of majors and fields represented in the class to ensure the multi-disciplinary mixing of ideas and concepts as required by the new program.

Projected enrollment in the proposed course:

15 per semester

Relationship of the proposed course to courses now offered by the department:

Part of the interdisciplinary MS Environmental Science concentration, this course is intended to bring together students from a variety of backgrounds so that they have a common understanding of the Environmental Science aspects of Geoscience.

Relationship of the proposed course to courses offered in other departments:

Part of the interdisciplinary MS Environmental Science concentration, this class will be cross-listed with the other departments on campus participating in the environmental science program.

Relationship of the proposed course to courses offered in other institutions:

This is a typical course for an interdisciplinary Environmental Science program and every school with such a program has a similar seminar series.

3. Discussion of proposed course

Course objectives:

Environmental science is an exciting field with constantly emerging job opportunities. During this class, environmental practitioners and researchers will provide lectures exposing students to the entire array of professional outlets for environmental scientists. MS Environmental Science students will be required to present thesis topics prior to graduation.

Content outline:

Guest lectures and discussions led by the MS Environmental Science Faculty. This will vary by semester depending upon the speakers and course faculty interests.

Student expectations and requirements:

Participation in discussion sections. All MSES students will be required to participate in this class for three semesters and to present their thesis work at some point during their program.

Tentative texts and course materials:

As suggested by individual lecturers.

4. Resources

Library resources:

See Library Resources Form

Computer resources:

None

5. Budget implications

Proposed method of staffing:

Existing Faculty

Special equipment needed:

None

Expendable materials needed:

None

Laboratory supplies needed:

None

6. Proposed term for implementation: Fall 2007

Dates of prior committee approvals:

Geography and Geology Graduate Committee

September 6, 2006

OCSE Graduate Curriculum Committee

October 19, 2006

Graduate Council
November 9, 2006

University Senate

Attachments: Bibliography, Library Resources Form, [Course Inventory Form](#)

Proposal Date: 8/15/2006

**Ogden College
Department of Geography and Geology
Proposal to Create a New Course
(Action Item)**

Contact Person: John All e-mail: john.all@wku.edu Phone: 5-5975

7. Identification of proposed course

Prefix and number: GEOG 543

Title: Environmental Science Concepts

Abbreviated title: Environmental Sci Concepts

Credit hours and contact hours: 3

Type of course: L (Lecture)

Prerequisites: None

Catalog course listing:

Provides students a fundamental understanding of the inter-relationship among the science and technical disciplines that contribute to our understanding of the environment as a whole. Students are exposed to the unique challenges facing environmental scientists, both from a practitioner and researcher perspective. Students learn to utilize their discipline-specific background in conjunction with an understanding of the roles and impacts of other disciplines to solve environmental problems.

8. Rationale

- Reason for developing the proposed course:

This course will act as the core requirement for the new interdisciplinary environmental science concentration within the MS Geoscience program. This course is intended to address gaps in coursework for the variety of students expected for the new program.

Projected enrollment in the proposed course:

10 students per semester, when offered, based on projected enrollments in this concentration within the MS Geoscience program.

Relationship of the proposed course to courses now offered by the department:

No similar courses are currently offered.

Relationship of the proposed course to courses offered in other departments:

No similar courses are currently offered.

Relationship of the proposed course to courses offered in other institutions:

Top graduate programs in environmental science/studies vary in availability of such a course. For example, Clark University's M.S. program in Environmental Science has a similar course, as does the Brown University Center for Environmental Studies. However, the SUNY College of Environmental Science and Forestry does not, nor does the University of Maine Graduate Program in Ecology and Environmental Science. Given the multidisciplinary nature of our

proposed program, we view a concepts course such as this to be a necessity.

9. Discussion of proposed course

Course objectives:

Prepare students to enter into the study of environmental science at a graduate level. Introduce research methods and core environmental science concepts. Prepare students to examine science questions with an interdisciplinary outlook and to work in research teams.

Content outline:

Modern philosophy of science
Research Methods
Systems science and a systems definition of environment
Plate tectonics
Biogeochemical cycles
Soils
Land degradation - salinization and erosion
Groundwater and Surface water flow
Climate and climate models
Ecosystem structure and function
Community and population dynamics
Evolution
Complexity theory
Organic and Inorganic chemical reactions

Student expectations and requirements:

Students will be required to complete a group research project with other students in the class. There will be written exams and a written project report.

Tentative texts and course materials:

Selected reading

10. Resources

Library resources:

See Library Resources Form

Computer resources:

None needed

11. Budget implications

Proposed method of staffing:

Current staff

Special equipment needed:

None

Expendable materials needed:

None

Laboratory supplies needed:

None

12. Proposed term for implementation: Fall 2007

Dates of prior committee approvals:

Geography and Geology Department/Division	September 6, 2006
OCSE Graduate Curriculum Committee	
October 19, 2006	
Graduate Council	
November 9, 2006	
University Senate	

Attachments: Bibliography, Library Resources Form, [Course Inventory Form](#)

Proposal Date: 8/15/2006

**Ogden College
Department of Geography and Geology
Proposal to Create a New Course
(Action Item)**

Contact Person: John All e-mail: john.all@wku.edu Phone: 5-5975

13. Identification of proposed course

Prefix and number: GEOG 587

Title: Environmental Law, Regulations, and Policy

Abbreviated title: Environmental Law

Credit hours and contact hours: 3 hours

Type of course: L (Lecture)

Prerequisites: GEOG 500

Catalog course listing:

An introduction to major environmental legislation for air, water, toxic and hazardous pollutants, and related legislative, administrative, and judicial developments. A broad overview of legal practices focused on specific regulatory programs.

14. Rationale

- Reason for developing the proposed course:

To offer an overview of legal issues faced by environmental science practitioners. Legal constraints often govern the day-to-day operation of most environmental science agencies and businesses and a thorough grounding in current law and regulations is crucial for the success of a new practitioner.

Projected enrollment in the proposed course:

10 students, when offered, based on projected enrollment in the environmental science concentration and existing enrollment in the geoscience program.

Relationship of the proposed course to courses now offered by the department:

This course supports coursework in the environmental science concentration of the MS geoscience program. It does not duplicate material in other courses but provides a new regulatory and policy perspective for environmental science majors.

Relationship of the proposed course to courses offered in other departments:

None are similar, although PH 590, Public Health Law, and ECON 430G, Environmental and Resource Economics, may overlap in a couple of minor areas.

Relationship of the proposed course to courses offered in other institutions:

This is one of the most common courses required for environmental science degrees and offering such a course will put WKU clearly in the mainstream of such programs. An Environmental Law course typically is offered in law school curricula, such as at Pittsburgh Law School and the George Mason School of Law, and is generally found most environmental science programs, such as those at the University of Tennessee at Chattanooga, North Carolina State University,

and Utah State University.

15. Discussion of proposed course

Course objectives:

This is a graduate survey course in environmental law. Environmental Law is comprised of a vast body of legislation and common law and students examine only the major concepts so that more focused study on a particular subject can be understood in context. Law dominates all aspects of society and it is important for students to understand that law isn't designed to determine what is 'right or moral' but to enforce what is expedient for society's optimal functioning. The class will be taught using the Socratic method, which is the most common teaching technique in US law schools.

Content outline:

Introduction to the US legal framework
National Environmental Policy Act (NEPA)
Clean Air Act
Water laws
Toxics laws
Endangered Species Act
International environmental laws

Student expectations and requirements:

In-class discussion will be required and forms a substantial portion of the grade.
Tests and a research project will also be required.

Tentative texts and course materials:

Salzman, J. and B. H. Thompson. 2003. Environmental Law and Policy.
Foundation Press, N.Y. 305 pp.

16. Resources

Library resources:

See Library Resources Form

Computer resources:

None

17. Budget implications

Proposed method of staffing:

Current Staff

Special equipment needed:

None

Expendable materials needed:

None

Laboratory supplies needed:

None

18. Proposed term for implementation: Fall 2007

Dates of prior committee approvals:

Geography and Geology Department

September 6, 2006

OCSE Graduate Curriculum Committee

October 19, 2006

Graduate Council

November 9, 2006

University Senate

Attachments: Bibliography, Library Resources Form, [Course Inventory Form](#)

Proposal Date: 9/8/2006

**Ogden College of Science and Engineering
Department of Geography and Geology
Proposal to Create a New Course
(Action Item)**

Contact Person: Jun Yan e-mail: jun.yan@wku.edu Phone: 5-8952

19. Identification of proposed course

Prefix and number: GEOG 517

Title: Spatial Databases

Abbreviated title: Spatial Databases

Credit hours and contact hours: 3

Type of course: L (Lecture)

Prerequisites: GEOG 417G & GEOG 419G; or special permission of instructor

Catalog course listing:

Advanced topics in GIS database planning, design, implementation, and administration. Covers a variety of GIS data models and their design & realizations in spatial database engines (SDG) used with database management systems software. (Course fee required.)

20. Rationale

- Reason for developing the proposed course:

With the widespread use of GIS and other computer technologies, databases in GIS are becoming larger and more complex than ever. This course offers graduate students an opportunity to master the necessary skills to develop and administer large and complex GIS databases.

Projected enrollment in the proposed course:

5-10 students per course offering, based on Master's student enrollment history.

Relationship of the proposed course to courses now offered by the department:

This course builds on the existing courses that provide general training in geographic information systems (*e.g.* Geog 317), complements many other topical and technique courses (*e.g.* Geog 417G and 419G), and supports advanced courses in planning, environment, and general geoscience (*e.g.* Geog 423G, Geog 520, Geog 474, Geog 584). Most of the topics covered in this course are only addressed briefly in the existing GIS curriculum. Current GIS course provide students with GIS analytical skills, while this course enhances the knowledge of our students in understanding the development and administration of complex GIS databases in a more sophisticated milieu.

Relationship of the proposed course to courses offered in other departments:

None at present, although there is some overlap with database management systems issues addressed in CS 443G. However, CS 443G does not cover any topics related to spatial databases.

Relationship of the proposed course to courses offered in other institutions:

Universities across the U.S. offer courses in database management systems, yet few are GIS based as they are primarily oriented to computer science majors. This is a cutting-edge area of study that few graduate-level GIS programs have yet to address. WKU will have the first such course in the Commonwealth.

21. Discussion of proposed course

Course objectives:

This course focuses on the process of planning, design, implementation, and administration of GIS databases. It provides students a conceptual background in, as well as practical guidelines for, GIS databases development and management. Students will work on lab exercises using both ESRI software and database design techniques.

Content outline:

Data requirements analysis; GIS database design; Geodatabase Data Model; database management system (DBMS); ArcSDE (Spatial Database Engine); data creation and population; SQL and query optimization; and GIS data integration.

Student expectations and requirements:

Students' work will be evaluated via a combination of exams, written reports, group projects, and successful completion of all assigned lab exercises and projects.

Tentative texts and course materials:

Modeling Our World. Michael Zeiler. ESRI Press. 1999.

Designing Geodatabases: Case Studies in GIS Data Modeling. David K. Arctur and Michael Zeiler. ESRI Press. 2004.

Fundamentals of Database Systems, 4th Edition. R. Elmasri and S. B. Navathe. Addison-Wesley Publishing Co. Inc. 2003.

Additional materials will supplement the textbooks.

22. Resources

Library resources:

See attached library resource form and bibliography.

Computer resources:

The resources available at the WKU Department of Geography & Geology are adequate for the proposed course

23. Budget implications

Proposed method of staffing:

Existing faculty will teach this course

Special equipment needed:

The Geography and Geology Department is committed to securing and maintaining for this course the necessary state-of-the-art GIS software, which will carry a campus-wide license and be available to students in the GIS labs.

Expendable materials needed:

Course fee covers materials required for map printing and other GIS-related materials.

Laboratory supplies needed:

Course fee covers any supplies needed.

24. Proposed term for implementation: Fall 2007

Dates of prior committee approvals:

Geography and Geology Department

9/13/2006

OCSE Graduate Curriculum Committee

10/19/2006

Graduate Council

11/9/2006

University Senate

Attachments: Bibliography, Library Resources Form, [Course Inventory Form](#)

Attachments: Bibliography, Library Resources Form, Course Inventory Form

Bibliography, Geography 543 – Advanced GIS Databases

The following list contains reference texts available in the WKU library, which would be supplemental to course delivery.

General GIS and Spatial Analysis

Goodchild, Michael F. and Donald G. Janelle. *Spatially Integrated Social Science*. New York: Oxford University Press. 2004

Verbyla, David L. *Practical GIS analysis*. London ; New York: Taylor & Francis, 2002.

Haining, Robert. *Spatial data analysis: theory and practice*. New York: Cambridge University Press, 2003.

Bailey, Trevor C. and Anthony C. Gatrell. *Interactive spatial data analysis*. New York: Wiley, 1995.

Fotheringham, A. Stewart and Michael Wegener. *Spatial Models and GIS: new potential and new models*. Philadelphia: Taylor & Francis, 2000.

Stillwell, John and Graham Clarke. *Applied GIS and spatial analysis*. Hoboken, NJ: Wiley, 2004.

Database Management Systems and Database Design

Watson, Richard T. *Data management : databases and organizations*. 5th edition. Hoboken, NJ : J. Wiley, 2006.

Teorey, Tobey, Sam Lightstone, and Tom Nadeau. *Database modeling & design : logical design*. Boston: Morgan Kaufmann Publishers, 2006.

Hellerstein, Joseph M. and Michael Stonebraker. *Readings in database systems*. Cambridge, Mass. : MIT Press, 2005.

Bagui, Sikha and Richard Earp. *Database design using entity-relationship diagrams*. Boca Raton : Auerbach, 2003.

GIS Books in Various Application Domains

Cromley, Ellen K. and Sara L. McLafferty. *GIS and public health*. New York: Guilford Press, 2002.

Khan, Omar A. and Ric Skinner. *Geographic information systems and health applications*. Hershey, PA: Idea Group Pub., 2003

Maheswaran, Ravi and Massimo Craglia. *GIS in public health practice*. Boca Raton: CRC Press, 2004.

Melnick, Alan L. *Introduction to geographic information systems in public health*. Gaithersburg, MD: Aspen Publishers, 2002.

Miller, Harvey J. and Shih-Lung Shaw. *Geographic information systems for transportation: principles and applications*. New York: Oxford University Press, 2001.

DeMers, Michael N. *GIS modeling in raster*. New York: Wiley, 2002.

Goodchild, Michael et al. *GIS and environmental modeling: progress and research issues*. Fort Collins, CO: GIS World Books, 1996.

Goodchild, Michael F., Bradley O. Parks, and Louis T. Steyaert. *Environmental modeling with GIS*. New York: Oxford University Press, 1993.

Skidmore, Andrew. *Environmental modelling with GIS and remote sensing*. London ; New York: Taylor & Francis, 2002.

Brimicombe, Allan. *GIS, environmental modelling and engineering*. New York: Taylor & Francis, 2003.

Lyon, John G. *GIS for water resources and watershed management*. London: Taylor & Francis, 2003.

Wyatt, Peter and Martin Ralphs. *GIS in land and property management*. New York: Spon Press, 2003.

Leipnik, Mark R. and Donald P. Albert. *GIS in law enforcement: implementation issues and case studies*. New York: Taylor & Francis, 2003.

Hanna, Karen C. and R. Brian Culpepper. *GIS in site design: new tools for design professionals*. New York: Wiley, 1998.

Zhong-Ren Peng and Ming-hsiang Tsou. *Internet GIS: distributed geographic information services for the internet and wireless networks*. Hoboken, NJ: Wiley, 2003.

Journals

Cartography and Geographic Information Science
Cartography and Geographic Information Systems
International Journal of Geographic Information Science
Geographical Analysis
Journal of Regional Science
Environment and Planning A.
Environment and Planning B.

The following list contains reference texts that are currently unavailable in the WKU library, but would be useful for the course.

Arctur, David K. and Michael Zeiler. *Designing Geodatabases: Case Studies in GIS Data Modeling*. ESRI Press. 2004.

Zeiler Michael. *Modeling Our World*. ESRI Press. 1999.

Booth, Bob, et al., *ArcGIS 9: Geodatabase Workbook*, ESRI Press, 2004.

MacDonald, Andrew, ArcGIS 9: Building a Geodatabase, ESRI Press, 2004.

LIBRARY RESOURCES
Revised November 1996

Date: _____

Proposed Course Name and Number:

Current Library holdings in support of the described course are:

_____ Adequate _____ Inadequate*

***Additional materials which would raise support to an adequate level:**

Monographs or Nonprint Resources:

(Note: put any additional recommended titles on reverse side)

Serials to be recommended for adoption:

Comments:

Faculty Member Proposing Course

Liaison Librarian

Coordinator, Collection Development

A tentative course proposal including bibliography must be submitted to the appropriate Subject Reference Librarian at least three weeks prior to the departmental curriculum committee meeting when the proposal will be considered. The availability of Library Resources Statement will be completed and returned to the course proposer.

Proposal Date: 9/11/2006

**Department Of Geography And Geology
Department of Odgen College Of Science And Engineering
Proposal to Revise Course Prerequisites/Corequisites
(Consent Item)**

Contact Person: Jun Yan e-mail: jun.yan@wku.edu Phone: -55982

1. Identification of course

- 1.1 Course prefix (subject area) and number: GEOG 419G
- 1.2 Course title: GIS Application Development
- 1.3 Credit hours: 3

2. Current prerequisites/corequisites/special requirements:

 : GEOG 417 and CS 226

 :
 :

3. Proposed prerequisites/corequisites/special requirements:

 : GEOG 417 and CS 230

 :
 :

4. Rationale for the revision of course prerequisites/corequisites/special requirements:

 CS 226 is not offered anymore by Computer Science Department; CS230 covers the same content that CS 226 used to offer.

5. Effect on completion of major/minor sequence: None

6. Proposed term for implementation: Fall 2007

7. Dates of prior committee approvals:

Geography and Geology Department/Division	<u>9/13/2006</u>
Graduate Curriculum Committee	<u>10/19/2006</u>
Graduate Council	<u>11/9/2006</u>
University Senate	<u> </u>

Attachment: [Course Inventory Form](#)

Proposal Date: 5/19/2006

**College of Education and Behavioral Sciences
Department of Psychology
Proposal to Revise a Program
(Action Item)**

Contact Person: Dr. Steven J. Haggbloom email: steven.haggbloom@wku.edu Phone: 5-4427

1. Identification of program:

- 1.1 Reference Number: 092
- 1.2 Current Program Title: Master of Arts in Psychology
- 1.3 Credit Hours: 48

2. Identification of the proposed changes:

- Editorial changes to program and concentration descriptions to improve readability
- Eliminate thesis option from General Psychology Concentration

3. Detailed program description:

CURRENT PROGRAM DESCRIPTION	PROPOSED PROGRAM DESCRIPTION
This general program provides preparation for students who wish to pursue careers in clinical, business, or governmental settings, and/or enter a Ph.D. program. The department offers four concentrations within the program: clinical, experimental, industrial/organizational, and general. Within each concentration, the student is expected to become competent in theory, research, and application of psychology as related to the chosen area of concentration. Applicants should have a statistics and experimental methodology course; background in general psychology; a minimum score of 850 on the Graduate Record Examination (GRE) General Test (verbal and quantitative combined); a minimum GPA of 2.75 with 3.0 in psychology courses. Applicants should submit three letters of recommendation, transcripts, a psychology department application form, and the Graduate Studies application form. Beyond the stated minimum requirements, selection is competitive. The total number of hours required is 48.	This general program provides preparation for students who wish to pursue careers in clinical, business, or governmental settings, and/or enter a Ph.D. doctoral program. The department offers four concentrations within the program: clinical, experimental, industrial/organizational, and general. Within each concentration, the student is expected to become competent in theory, research, and application of psychology as related to the chosen area of concentration. Applicants should have a statistics and experimental methodology course; background in general psychology; a minimum score of 850 on the Graduate Record Examination (GRE) General Test (verbal and quantitative combined); a minimum GPA of 2.75 with 3.0 in psychology courses. Applicants should submit three letters of recommendation, transcripts, a psychology department application form, a 500-word personal statement describing professional interests and career goals, and the Graduate Studies application form. An interview may be required.

	Applicants to the clinical psychology concentration should also submit an affidavit affirming that they have never been convicted or charged with a felony crime. Applications should be received by March 1 for priority consideration. Beyond the stated minimum requirements, selection is competitive. The program comprises 12 hours of core courses, 9 hours of restricted electives, 12-15 hours of specialized courses in a concentration, 6-9 hours of practicum and/or internship, and 6 hours of thesis or electives (48 credit hours total). A comprehensive examination is required at the time of thesis defense or upon completion of course work. The research tool is required in all concentrations. No concentration may have more than 9 hours of 400G-level courses.
<u>Psychology Core Courses—21 hours</u> Concentration Specialization (12-15 hours) Practicum, Internship (6-9 hours) Thesis or 2 electives (6 hours) <u>Psychology core requirements—12 hours for all concentrations</u> PSY 512 Experimental Design PSY 541 Professional Issues and Ethics in Psychology PSY 563 Statistics and Psychometric Theory PSY 552 Advanced Social Psychology <u>Restricted Electives—9 hours</u> <i>Learned Bases of Behavior—3 hours</i> PSY 511 Psychology of Learning PSY 523 Advanced Topics in Cognition PSY 673 Advanced Training in Business and Industry <i>Individual or Unique Basis of Behavior—3 hours</i> PSY 520 Individual Differences and Human Diversity	<u>Psychology Core Courses—21 hours</u> —Concentration Specialization (12-15 hours) —Practicum, Internship (6-9 hours) —Thesis or 2 electives (6 hours) <u>Psychology eCore Courses requirements—12 hours for all concentrations</u> PSY 512 Experimental Design – 3 hours PSY 541 Professional Issues and Ethics in Psychology – 3 hours PSY 563 Statistics and Psychometric Theory – 3 hours PSY 552 Advanced Social Psychology – 3 hours <u>Restricted Electives—9 hours</u> <i>Learned/Cognitive Basis of Behavior—3 hours</i> PSY 511 Psychology of Learning – 3 hours PSY 523 Advanced Topics in Cognition – 3 hours PSY 673 Advanced Training in Business and Industry – 3 hours <i>Individual or Unique Basis of Behavior—3 hours</i> PSY 520 Individual Differences and Human Diversity – 3 hours

PSY 521 Advanced Child Developmental Psychology PSY 550 Personality Theory <i>Advanced Analysis of Behavior-Biological/Quantitative-3 hours</i> PSY 580 Physiological Psychology PSY 513 Advanced Statistical Analysis Both Plan A (thesis) and Plan B (non-thesis) are available. The research tool is required in all concentrations. No program may have more than 9 hours of 400G-level courses. A practicum or internship is required (6 to 9 hours). A comprehensive examination is required at the time of thesis defense or upon completion of course work. Clinical Psychology, Concentration Code MACL This concentration is practice-oriented and offers a broad foundation for individuals planning to render psychological services at the MA level. Students prepare for the certification examination administered by the Kentucky State Board of Psychology and by boards in other states requiring certification for individuals who provide psychological services at the MA level. Practicum and internship (9 hours) required. Thesis (or 2 course electives) required. This program requires 48 hours.	PSY 521 Advanced Child Developmental Psychology – 3 hours PSY 550 Personality Theory – 3 hours Advanced Analysis of Behavior-Biological/Quantitative Analysis of Behavior-3 hours PSY 580 Advanced Physiological Psychology – 3 hours PSY 513 Advanced Statistical Analysis – 3 hours Both Plan A (thesis) and Plan B (non-thesis) are available. The research tool is required in all concentrations. No program may have more than 9 hours of 400G-level courses. A practicum or internship is required (6 to 9 hours). A comprehensive examination is required at the time of thesis defense or upon completion of course work. Clinical Psychology, Concentration Code MACL This concentration follows the scientist-practitioner model of training. It prepares students to be successful performing both research and therapy. The program is practice-oriented, and offers a broad foundation for individuals planning to the professional who will render a wide variety of psychological services at the MA level. Students The program also prepares students to pursue further education at the doctoral level. The program prepares students for the national ASPPB licensure examination required to practice psychology in many states. administered by the Kentucky State Board of Psychology and by boards in other states requiring certification for individuals who provide psychological services at the MA level. Practicum and internship (9 hours) required. Thesis (or 2 course electives) (6 hours) required. A criminal background check will be required of successful applicants during the first semester of graduate study at the applicant's expense. This program requires 48 hours.

Industrial-Organizational Psychology, Concentration Code MAIN This concentration focuses on behavior in business and governmental organizations. Students are expected to become proficient in the construction and validation of personnel selection systems. Job analysis, test validation, criterion development, equal employment opportunity law, and training in business and industry are emphasized in the program. A four-to-six months internship in personnel psychology is encouraged (6 hours); 6 advisor-approved graduate credit hours may be substituted for the internship if no internship placement can be obtained. A thesis is required. This program requires 48 hours.	Industrial-Organizational Psychology, Concentration Code MAIN This concentration focuses on behavior in business, industry, consulting, and governmental organizations. Students are expected to become proficient in the construction and validation of personnel selection systems. Job analysis, test validation, criterion development, equal employment opportunity law, and training in business and industry are emphasized in the program. A four-to-six months internship in personnel psychology is encouraged (6 hours); 6 advisor-approved graduate credit hours may be substituted for the internship if no internship placement can be obtained. A thesis is required. This program requires 48 hours.
Experimental Psychology, Concentration Code MAAE The experimental concentration is a research-oriented program designed to prepare individuals for continuation in a Ph.D. program and/or positions in industry, government, or education where strong research and methodological skills are needed. Some freedom within the curriculum permits the student to design a program that best fits his/her interests. The program provides a number of research areas including cognition, perception, neuroscience, child development, aging, social psychology, sport psychology, and educational psychology. A thesis is required, in addition to a research practicum (6 hours) involving two semesters of participation in a research project prior to the thesis. This program requires 48 hours.	Experimental Psychology, Concentration Code MAAE The experimental This concentration is a research-oriented program and designed to prepare individuals for continuation in a Ph.D. program and/or positions in industry, government, or education where strong research and methodological skills are needed. Some freedom within the curriculum permits the student to design a program that best fits his/her interests. The program provides a number of research areas including cognition, perception, neuroscience, child development, aging, social psychology, sport psychology, and educational psychology. A thesis is required, in addition to a research practicum (6 hours) involving two semesters of participation in a research project prior to the thesis. This program requires 48 hours.
General Psychology, Concentration Code MAGE This concentration is designed for students who desire a terminal master's degree in general psychology or who plan to pursue doctoral studies in specialties not included above. Course requirements, beyond those required in the core, are individually deter-	General Psychology, Concentration Code MAGE This concentration is designed for students who desire a terminal master's degree in general psychology. or who plan to pursue doctoral studies in specialties not included above. Course requirements, beyond those required in addition to the core courses and

mined by the faculty advisor. A thesis or 2 course electives is required. Practicum is required (6 hours). This program requires 48 hours.	restricted electives , are individually determined by in consultation with the faculty advisor. A thesis or 2 course electives is required. Practicum (6 hours) is required. (6 hours). This program requires 48 hours. A thesis is not allowed.
--	---

4. Rationale for proposed program revisions:

- These are editorial changes to enhance the readability of the text.
- The thesis option is being deleted from the General Concentration because it does not ensure sufficient specialization for successful completion of a high quality thesis.

5. Proposed term for implementation and special provisions:

Term: Fall, 2007

Provisions, if applicable: None

6. Dates of prior committee approvals:

Department of Psychology	<u>9/15/2006</u>
CEBS Curriculum Committee	10/3/2006
Graduate Council	<u>11/9/2006</u>
University Senate	_____

Attachment: program Inventory Form

**Ogden College of Science and Engineering
Department of GEOG
Proposal to Revise a Program
(Action Item)**

Contact Person: John All e-mail: john.all@wku.edu Phone: 5-5975

25. Identification of program

- 1.1 Reference Number: 072
- 1.2 Current Program Title: Master of Science in Geoscience
- 1.3 Credit hours: 30-36

26. Identification of the proposed changes:

Departments within the Ogden College of Science and Engineering propose to establish a suite of graduate degree options to be collectively referenced as the Master of Science in Environmental Science. The Master of Science in Environmental Science will consist of identically structured options in at least one program within in each participating department. For the purposes of this proposal, the collection of degree options will be referenced specifically as the "Coordinated Program," to differentiate it from traditional "Programs" with institutional and state reporting requirements. Each degree program or department contributing an option, faculty member or other resource to the Coordinated Program will be referenced as the Home Department or Program. Each degree program option contributed by the participating departments will be referenced in this document as "Options," indicating them to be both options within the Coordinated Program and the Home Department/Program. Coordinated Program governance will include oversight of each of the contributing departmental program option and will be shared across all participating departments and is defined in the attached Environmental Science Corrdinated Degree Program By-Laws. All metrics requiring institutional or state reporting will be submitted by, and allocated to, each Home Department/Program.

27. Detailed program description:

The proposed program option will consist of two plans. The thesis plan, consisting of 24 hours of coursework and 6 hours of thesis, is designed for students wishing to develop a core proficiency in environmental science while focusing on solving a specific problem or research question. The non-thesis plan, consisting of 36 hours of coursework, is designed for students desiring a broad understanding of environmental science from a multi-disciplinary perspective. Both plans share a common core designed to provide the student with an fundamental understanding of the policy drivers and disciplinary inter-relationships that are essential for successful environmental management.

Core - 9 credit hours taken from cross-listed inter-disciplinary courses:

- GEOG 587. Environmental Law - This is a new 3-credit-hour course to be cross-listed, ideally team taught, and offered in each participating department. The purpose of this course is to provide the student with a fundamental understanding of environmental policy.
- GEOG 543. Environmental Science Concepts - This is a new 3-credit-hour course to be cross-listed, team taught and offered in each participating department. The purpose of this course is to provide the student with a fundamental understanding of the inter-relationship between the science and technical disciplines contributing to our understanding of our environment as a whole. The student will be exposed to the unique challenges facing environmental scientists both from a practitioner and researcher perspective. The student will learn to utilize his/her discipline-specific background in conjunction with an understanding of the roles and impacts of other disciplines to solve environmental problems.
- GEOG 506. Environmental Seminar - 3 credit-hours of an environmental seminar offered once a week for one credit-hour per semester. This is a new course that will be offered once per semester and cross-listed among all participating departments. All Environmental Science students will be required to be continuously enrolled in the seminar for a minimum of 3 credit hours total towards their degree program. Practitioners and researchers will provide lectures, exposing the students to the entire spectrum of professional outlets for environmental scientists. Students having developed a thesis topic will be required to present at least once prior to completion of their degree program. This will require a variance from the College of Graduate Studies requirement that the research tool be completed within the first 15 hours. Approximately 2 hours worth would be completed by the 2nd semester (>15 hours).

Thesis Plan

- Discipline-Specific Research Methods - 3-4 credit hours. These are existing discipline-specific courses offered in each home department (BIO 483G, GEOG 520, AG 591, etc). The purpose of this course is to provide the student with the ability to execute research with a perspective of their home discipline.
- GEOG 599. Thesis - 6 credit hours. Students will be required to write a formal thesis proposal and present it to their peers during an Environmental Seminar.
- Electives – 12 credit hours of electives approved by the student's advisory committee, supportive of the student's thesis topic.

Non-Thesis Plan:

- Electives – 27 hours of electives approved by the student's advisory committee, with no more than 9 hours coming from any one department.

Students electing to incorporate the Environmental Science option in their Masters of Science in Geoscience degree program will need to ensure that they fulfill these requirements in addition to the base requirements of the Master of Science in Geoscience degree program.

Current Program Options	Proposed Program Options
M.S. Geoscience Program (Thesis)	M.S. Geoscience Program (Thesis)
Core Requirements 12 hours [GEOG 500, 502, 520]	Core Requirements 12 hours [GEOG 500, 502, 520]
Program Electives 12 hours [Any 12 hours of graduate coursework approved by the thesis director]	Program Electives 12 hours [Any 12 hours of graduate coursework approved by the thesis director]
Thesis Research 6 hours [An approved thesis project]	Thesis Research 6 hours [An approved thesis project]
PROGRAM TOTAL 30 hours	PROGRAM TOTAL 30 hours
<i>Additional Requirements:</i>	<i>Additional Requirements:</i>
Research Tool 3 hours [An appropriate course approved by the thesis director and the Graduate School]	Research Tool 3 hours [An appropriate course approved by the thesis director and the Graduate School]
M.S. Geoscience (Non-Thesis)	M.S. Geoscience (Non-Thesis)
Core Requirements 12 hours [GEOG 500, 502, 520]	Core Requirements 12 hours [GEOG 500, 502, 520]
Program Electives 18 hours [Any 18 hours of graduate coursework approved by the thesis director]	Program Electives 18 hours [Any 18 hours of graduate coursework approved by the thesis director]
Graduate Project 6 hours [A research paper of publishable quality approved by the program director]	Graduate Project 6 hours [A research paper of publishable quality approved by the program director]
PROGRAM TOTAL 36 hours	Program Total 36 hours
<i>Additional Requirements:</i>	<i>Additional Requirements:</i>
Research Tool 3 hours [An appropriate course approved by the thesis director and the Graduate School]	Research Tool 3 hours [An appropriate course approved by the thesis director and the Graduate School]
	<i>Environmental Sci. Option (Thesis)</i>
	Interdisciplinary
	Core Requirements 9 hours [GEOG 506, 543, 587]
	Program Requirements 8 hours [GEOG 500, 520]
	Program Electives 7 hours [Any 7 hours of graduate coursework approved by the thesis director]
	Thesis Research 6 hours [An approved thesis project]
	Program Total 30 hours
	<i>Additional Requirements:</i>
	Research Tool 3 hours [An appropriate course approved by

	the thesis director and the Graduate School]
	<i>Environmental Science Option (Non-Thesis)</i>
	Interdisciplinary Core Requirements 9 hours [GEOG 506, 543, 587]
	Program Requirements 8 hours [GEOG 500, 520]
	Program Electives 13 hours [Any 13 hours of graduate coursework approved by the thesis director]
	Graduate Project 6 hours [A research paper of publishable quality approved by the program director]
	Program Total 36 hours
	<i>Additional Requirements:</i>
	Research Tool 3 hours [An appropriate course approved by the thesis director and the Graduate School]

28. Rationale for proposed program revisions:

Many of the students who graduate with a Master of Science in Geoscience will pursue careers that relate to the area of environmental sciences. In order to prepare them for those types of careers, this option will provide class work that broadens their knowledge in a wide range of environmental science subjects, since it is cross disciplinary in nature and content.

29. Proposed term for implementation and special provisions:

Term: Fall 2007

Provisions, if applicable: Committee approval for all new classes

30. Dates of prior committee approvals:

GEOG/GEOL Graduate Committee

September 6, 2006

OCSE Graduate Curriculum Committee

October 19, 2006

Graduate Council

November 9, 2006

University Senate

Attachment: [Program Inventory Form](#)