

**New Program Submission
Bachelor of Science – Teacher Certification
Earth and Space Science (8 – 12)
Morehead State University
Department of Physical Sciences**

.....
June 13, 2003

**Prepared for Commonwealth of Kentucky
Education Professional Standards Board**

Prepared By:
Steven K. Reid, Associate Professor, Geoscience

TABLE of CONTENTS

1. Conceptual Framework	3
2. Continuous Assessment Plan	8
Transition Points Document	13
3. Program Experiences	
Introduction	14
Course Listing for Earth and Space Science (8 -12)	15
Table of Field and Clinical Experiences for Earth and Space Science (8 - 12) Program	17
Matrix 1: Links Between Earth and Space Science (8 -12) Program and New Teacher standards	18
Matrix 2. Earth and Space Science (8 -12) Program Connections to Learned Society - National Science Teachers Association - Standards	19
Matrix 3. KERA Initiatives and Links to Earth and Space Science (8-12) Program Coursework	31
Matrix 4. Earth and Space Science (8-12) Program Links to Education Professional Standards Board Themes	32
Earth and Space Science Program Faculty	33
Secondary Professional Education Core Course Faculty	34
Earth and Space Science (8–12) Teaching Program Checksheet	35
Recommended Sequence of Courses	38
Appendix A	
2002 Geology Program Assessment	39
Form B	40
Form C1	41
Form C2	42
Form C3	43

Morehead State University Teacher Education Programs

I. CONCEPTUAL FRAMEWORK

a. Mission

The general aim of the Professional Education unit at Morehead State University is to prepare educators who are able to perform effectively in school base settings. More specifically, graduates must demonstrate the knowledge, skills and dispositions that are essential if one is to successfully fulfill the role of new or experienced teacher, school counselor, or administrator. The theoretical framework that undergirds the program is articulated in the units conceptual framework; the theme is "Educators as Architects: Designing Environments Where Students Construct Knowledge and Develop Skills"

b. Unit Philosophy

The architect metaphor is used for three reasons:

- 1) It strikes a balance between the educator as key actor in the traditional classroom, and the educator as passive observer in the romanticized classroom. It also implies that the educator is central to the planning and preparation of classroom activities but the student is the active doer of the work of learning (Blythe, Allen, Schieffelin, 1997).
- 2) It suggests that educators are not merely the implementers of canned learning materials created by others. They themselves are the artists, creating environments specific to the needs of their students, at a particular time, and using a variety of materials as appropriate (Tomlinson, Callahan, 1997)
- 3) Constructivist theory says that learners construct their own knowledge by testing ideas and approaches based on their prior knowledge and experience, applying these to a new situation and integrating the knowledge gained with pre-existing intellectual constructs (Piaget, 1952)

Educators therefore are responsible for constructing authentic learning environments to engage candidates in activities that are inherently interesting and meaningful. Use of the "Educator as Architect" metaphor and its constructivist epistemology, the following themes and activities are designed to contribute to candidate knowledge bases and to encourage desired dispositions and commitments. These themes and activities recur throughout the content and methodology of the educator preparation programs:

Commitments

- Candidate engagement in a comprehensive and multifaceted knowledge and skills base that can be applied and used in multiple contexts. [NTS:8,9]
- An acknowledgement of the belief that learning is an active and on-going process (Piaget, 1952). [NTS:7,8]
- Providing candidates with direct experiences; so that they can use and process information while seeking solutions (Piaget, 1969). [NTS:1,2,3,8]
- Placing candidates in authentic or "real" world settings so that learning has the potential to be meaningful (<http://www.coe.uh.edu/~9chen/ebook/EFITT/cognitive.htm>). [NTS:8,9]
- Encouraging candidates to extend their ability to process and learn from reflecting on their own experiences so that they can develop more informed and sophisticated teaching practices (professional development) (Dewey, 1959; Reiman, 1999). [NTS:5,7]
- Providing candidates with opportunities to understand the impact that dispositions, attitudes, values, and beliefs have on student learning and development (Richardson, 1966). [NTS: 1,2,3,4,5]
- Assessing candidates and faculty using a variety of quantitative and qualitative measures, including authentic performance-based projects and action-research. [NTS: 4,5] (<http://curriculum.calstatela.edu/faculty/pssparks/theorists/501/consti.htm>)
- Encouraging faculty and public school practitioners to fulfill the role of facilitators of learning by constructing experiences in environments that stimulate students and provide thought, action, and reflection (Richardson, 1999; Miller, Wilkes, Sheetham and Goodwin, 1993). [NTS: 1,2,3,4]
- The assessment of candidate commitments and abilities demonstrating an awareness of and ability to account for learner diversity; including gender, race, ethnicity, cultural, and exceptionality in all aspects of the educational setting (Darling- Hammond, 2000). [NTS: 1,2,3,4,5]
- Extending graduate's ability to communicate effectively with students, parents, professionals, peers, and members of the community. The intention is to enhance the spirit of collaboration in an effort to evaluate and enhance the ability of the school to fulfill state and local educational objectives (Dewey, 1938/1959). [NTS:5,6,7]
- The preparation of pre-professionals and faculty who are able to effectively integrate technology into all aspects of the educational process in order to improve communication, teaching, learning, and assessment. [NTS:5,7,9]

- Monitoring the extent to which each educator preparation program fulfills its goals and commitment to preparing graduates to demonstrate performance standards, as well as the system each uses to produce positive change (NCATE, 2000). Current devices for monitoring include candidate exit assessments (including a dispositions/commitment rubric) and program assessments.

c. Knowledge and Skill Bases

In order to function effectively as a teacher (at the initial or advanced level), administrator, or school counselor, multiple areas of knowledge and skills are required. The process used to develop a mastery of the knowledge and skills needed to create effective, safe, and stimulating experiences for students varies according to each specific program’s outcomes and standards. Undergraduate programs affiliated with the Professional Education Unit focus on the preparation of classroom teachers. Six learning categories have been defined: General Education, plus five teacher education categories: 1) Content Studies, 2) Professional Studies, 3) Pedagogical/ Methodological Studies, 4) Clinical and Field Experiences, and 5) the Capstone Course. Each of these categories is addressed separately in order to clarify the function each serves in the preparation of pre-professionals. It is important to note, however, that the categories are not perceived to be separate entities. Learning is believed to be continuous and on-going. The program is delivered systematically; an overview of the sequencing is reflected in the chart presented below.

Category Sequencing and Implementation
(Initial Teacher Preparation Programs)

	Freshman Year	Sophomore Year	Junior Year	Senior Year
General Education	xxxxxxxxxxxx	xxxxxxxxxxxx	xxxxxxxxxxxx	Capstone
Content Studies	xxxxxxx	Xxxxxxxxxxxxx	Xxxxxxxxxxxxx	xxxxxxx
Professional Studies		Xxxxxx	Xxxxxxxxxxxxx	xxxxxxxxxxxx
Pedagogical Studies			Xxxxxxxxxxxxx	xxxxxxxxxxxx
Clinical/Field		Xxxxxxxxxxxxx	xxxxxxxxxxxx	xxxxxxxxxxxx

General Education

At the University, the process of developing a classroom teacher begins when students enroll in courses that fulfill general education requirements. General education requirements are organized into three categories: a required core, area studies, and an integrative component. The purpose of the required core is to refine essential skills in the areas of written and oral communication, computer basics, and mathematics. The second category - area studies - provides students with discipline-specific content and skills, and courses must be taken from: 1) humanities, 2) natural and mathematical sciences, 3) social and behavioral sciences, and 4) practical living. The integrative component is a capstone course that is taken in a student’s major or area of study. While designed to serve all university students, the general education requirements foster the development of competencies that are absolutely essential for teachers. For future teachers, area studies coursework extends the general knowledge beyond the essentials to help them become broadly intellectually and culturally (and multiculturally) literate. As students move through these requirements they develop their ability to think critically, solve problems effectively and responsibly, recognize and value the multicultural nature of America, and to respect the rights of all humans. The capstone (integrative component) experience provides an opportunity for teacher education students to integrate everything they have learned throughout the undergraduate experience and use it in authentic settings through a senior seminar and student teaching experiences. Because the general education requirements are delivered over four years, students also get to see that the university embraces the idea that “learning is continuous, developmental, and interrelated” (Piaget, Inhelder, 1969).

Teacher Education Program

While teacher education students are pursuing their general education, they also begin to construct specialized knowledge related to their professional preparation. These experiences are generally organized into five categories: Content/Area Studies, Professional Education, Pedagogy, and Clinical Practice and Field Experiences and the Capstone Course.

Content Area Studies

In 1983, “A Nation At Risk: The Imperative for Educational Reform by the National Commission on Excellence in Education,” (as well as dozens of reform reports since) pointed out the need to strengthen the academic qualifications of school-based professionals. The faculty members at Morehead State recognized this need and have shaped content courses to ensure that students in the initial preparation programs have ample opportunity to grasp the ideas, theories, principles, skills, methods of inquiry, and information processing techniques that are essential to individual academic disciplines. Teacher education faculty members are expected to model best practices and create learning environments that challenge students to construct knowledge in meaningful ways. Ultimately students will be

expected to document their mastery of discipline specific knowledge before completing their teacher education programs.

Professional Studies

Professional studies courses are designed and sequenced to ensure that students develop an understanding of the social, intellectual, and psychological foundations of schools as multi-faceted social institutions and of learners as developing individuals of immeasurable complexity. Two courses, Foundations of Education and Human Growth and Development, lay this theoretical groundwork for all programs, while other courses are specific to individual programs. For example, all students take a learning theories course, but there are different versions for early childhood, elementary, middle grade, and secondary programs.

Although these theoretical professional studies courses have different goals, they all engage students with constructivist models as well as more traditional approaches to learning. The foundations course provides an intellectual context for constructing one's understanding of the nature and purposes of schooling through examination of major ideas influences in the history of education and schooling in America from colonial times to the present. Constructivist epistemologies are introduced, as are the state initiatives, education resources, and standards, as well as the unit's conceptual framework. Future educators are challenged to think critically about their reasons for entering the profession and to reflect on their experiences as classroom observers in light of their newly developing knowledge, personal beliefs, and career expectations. The human growth and development course explores constructivist and more authoritarian models of learning development, and encourages teacher education students to learn meaningfully through experiences with young learners (Piaget & Inhelder, 1969; Vygotsky, 1962). The learning is enhanced through exploration of issues related to cultural diversity and the needs of exceptional learners. Students are encouraged to apply their knowledge to teaching practices that support the development, motivation, and achievement of all students (Darling-Hammond, 2000; Gardner, 1999).

This theoretical knowledge is not studied just as ivory tower scholarship, but through observations and interactions with real schools and real children, and future teachers are repeatedly asked to reflect upon and express the insights they are gaining through their clinical and field experiences.

Methods and Pedagogy Courses

Teachers must possess a variety of skills in order to transform this developing knowledge into meaningful learning environments that will help young learners follow a similar path. Methods and pedagogy courses provide students with opportunities to develop and demonstrate the knowledge and skills necessary for designing, planning, implementing, and assessing learning and instruction. Courses in this category prepare students to understand the relationship between unique, individual learners and the formalized lessons and units of instruction, and overall curriculum of institutionalized education. Clinical and field experiences are required for each methods class to provide future teachers with meaningful opportunities for practice and reflection (Dewey, 1959). Exposure to and use of state-generated curriculum guidelines, learner expectations, and assessment tools help students understand the professional realities they will face when they become teachers.

The faculty members who mentor students in methods courses model a variety of classroom management techniques and research-based instructional practices. This is not only to enhance "mastery of content," but also to model for students the teacher's role as a professional decision maker – selecting and implementing a variety of strategies as individual situations warrant – rather than following a canned procedure. Role playing, cooperative learning, case studies, and field experiences are all constructivist strategies used to provide students with opportunities to develop problem-solving skills related to classroom management, discipline, environmental safety and security issues.

Throughout all professional studies and pedagogy and methods studies, prospective teachers' dispositions are observed and feedback is given to ensure that students understand the relationship between their attitudes and the creation of a positive environment for student learning (Dewey, 1959; Goldstein, 1999; Reiman, 1999). Social interaction skills are practiced and refined for the purpose of preparing pre-professionals to foster positive relationships with students, parents, colleagues, staff, and administrators.

Clinical Practice and Field Experiences

Clinical practice and field experiences play a central role in the learning experience of pre-professional students because they enable students to construct their knowledge directly from the raw material of life, not from the sifted experiences of the worldviews of others. These field experiences follow a four-tiered developmental sequence - from initial anthropologically oriented observations to final whole-class teaching responsibilities – and parallel the students' own developing expertise and professional maturity. The chart on the next page shows the goals we have set for increased and better sequenced field experiences in our secondary education programs.

Prior to admission to the Teacher Education Program (TEP), students are primarily involved in observation and reflection about schools and children. Following admission to the TEP, students move into clinical and field experiences that require interaction with or teaching a single student or small group of students. As students begin methods/ pedagogy coursework, the complexity of the practice in the field increases, whether it be in terms of teaching a whole group or teaching for an entire class period. These experiences are designed to prepare the student for student teaching, the culminating and integrative experience in the program.

Planned Field Experience Sequence

Level	Courses	Primary Activities
Level IV Field Experiences	Student Teaching Semester	Full responsibility for classroom
Level III Field Experiences (70-80 hours)*	Advanced and Content-Based Methods Courses. Examples: AGR 470, ART 300, 321 BIO 485, BIS 499C EDUC 333, 576 ENG 382, 500 FRN 405 HIST 499 HLTH 300, 304, 377 HS 388, 470 IET 392, 393 MTH 373, 374 MUSE 325, 335, 336, 375, 376 PHED 300, 303 SCI 402,403, 497C	Guided Observation – 15 hours Tutoring – 10 – 15 hours Working with small groups 15 –20 hours Whole class and large group teaching – 30 hours
Level II Field Experiences (28-30 hours)*	Applied theory classes and introductory pedagogy classes in content disciplines. Examples: EDSE 311, 312, 333 EDSP 332	Content Specific Observation – 15 hours Tutor small groups – 8 hours Whole class instruction – 5 – 7 hours
Level I Field Experiences (40 hours)*	Education/Theory Courses: EDF 207 EDF 211	General Observation – 25 hours Tutoring – 5 hours Aiding, grading – 8 hours School board – 1 hour Site Based Council – 1 hour

* Hours do not include additional clinical hours that will count toward the 150 combined clinical and field hours we require before student teaching.

Capstone Course

Although the capstone course is the integrative component of the general education requirements of the institution, it is program specific. For teacher education programs, it is a seminar taken with the student teaching experience. This experience helps the student make the transition into the student teacher role, provides support and feedback to the student's work in an actual public school classroom, and supports the development of a final professional portfolio – one that will demonstrate that the student has not only constructed a functional body of knowledge appropriate his/her professional role, but can plan and create nurturing environments for others, environments where young learners can construct their own knowledge. In other words, the student teaching portfolio should demonstrate that the student is ready for the role of architect of learning – designing environments where students construct knowledge and develop skills.

d. Performance Standards

Assessment of students, programs, and faculty is continuous and interwoven into individual teacher education programs. In general, the purposes of assessment are to: 1) monitor student development toward the competency required of effective beginning teachers, 2) monitor faculty members' effectiveness as facilitators of this development, 3) provide specific feedback that will allow for development of individualized instructional and professional development activities, and 4) provide institutional feedback for program refinement and reporting documentation.

Student Assessment

Consistent with the pedagogical balance expressed in the "Educator as Architect" theme, both traditional academic assessments and more authentic assessments are used throughout teacher education programs. In addition to a wide variety of individual course assessments, all teacher education programs include entrance assessments, on-going assessments, and exit assessments. All three levels include traditional academic measures,

considerations of dispositions, and documentation of student performance on authentic tasks. The culminating assessment is a portfolio of student work over the course of his/her program, completed and submitted during the student teaching semester. It should document that students, through their own reflective experiences with a variety of environments, have constructed a meaningful understanding of what it means to be a good teacher, have developed specific social and technical skills necessary to foster learning in others, have the judgment to use those skills appropriately, and have the disposition to actually do what needs to be done to help their students grow.

Assessment of Dispositions: Dispositions are the “non-academic” attributes of professionals – including attitudes and values that ultimately manifested themselves in tendencies to act a particular way. Research indicates that such dispositions strongly influence student learning and development (Richardson, 1996; Reiman, 1999). In the past, MSU assessment and monitoring of dispositions was mostly informal and related to specific courses, but recently the Teacher Education Council approved a process for encouraging and continuously assessing eight specific dispositions. Prospective teachers, we believe, should be 1) passionate about learning, 2) enthusiastic about teaching, 3) committed to teaching responsibilities, 4) self-reflective, 5) hardworking, 6) resourceful problem solvers, 7) sensitive to individual differences, and 8) able to establish rapport.

e. Integration with the Curriculum and Assessment System

Program quality is monitored annually through a university designed reporting system which uses Nichols' Five Column Method of Program Evaluation. Each program is required to develop an assessment plan that: 1) identifies explicit links with the university vision, mission, and goals, 2) states explicit links to program goals, 3) articulates assessment measures and criteria for acceptable levels of performance, 4) includes actual performance data (aggregate when possible) used to determine if performance fulfills the stated criteria, and 5) addresses needs and methods for change, where appropriate, to improve performance. This emphasis on assessment of programs through student performance, as opposed to teacher behavior, is consistent with the constructivist focus on student work. Programs can use considerable discretion in deciding what kinds of student work most accurately reflect program success. Data that is used to document student performance must be included as part of the annual report. This report is submitted to the Dean and Provost for review.

On-going evaluation of the programs within the College of Education will be facilitated through a new data-collection/maintenance initiative. A newly revised computer database will be used to track student demographic, assessment, and performance information. Annual reports will be generated for use within the college to gain a comprehensive and in-depth picture of program strengths and weaknesses. Analysis of the data will provide an on-going opportunity to make suggestions for program modifications, thus, closing the loop in program design, implementation and assessment.

Faculty Evaluation

Faculty are evaluated annually using Faculty Evaluation Plans (FEPs) developed by each department. Faculty submit portfolios with both quantitative and qualitative evidence of their successes in teaching, service, and professional achievement, and are evaluated by peers and the administration. Departmental FEPs allow departments to create authentic assessments and use a variety of artifacts for examining faculty performance. They also can give the faculty member significant say in what kinds of documentation he/she wants to present. Such flexibility is consistent with both the architect metaphor and constructivist theme, leaving teachers artistic room to construct not only their students' learning environments, but their own professional environments.

The entire Morehead State Conceptual Framework document is available on line:

<http://www.msucoe.org/conceptframe.html>

Morehead State University
Teacher Education Programs
2. Assessment System and Unit Evaluation

Continuous assessment is interwoven into curriculum, standards-driven instruction, and is an important part of the unit evaluation. While assessments are made at the individual level (pre-candidates, candidates), evaluation occurs at the program and Unit level (alumni, professional educational community). The Continuous Assessment Plan (CAP) provides for both the ongoing assessment of candidate achievement (knowledge, skills, dispositions) and the ongoing evaluation of program quality within the Professional Education Unit. Implementation of the CAP provides data used for decision-making focused on maintaining or extending quality programs and candidate performance levels. Faculty, academic administrators, school-based personnel, and candidates are committed to, and invested in, the development and implementation of the Continuous Assessment Plan (EPSB CAP Guide indicator 1.1). Operationally, the plan is characterized by data feedback loops that ensure its on-going evolution.

Currently, the assessment of candidates is linked to the Conceptual Framework and state performance standards as articulated in the New Teacher Standards, Experienced Teacher Standards, New Counselor Standards, Experienced Counselor Standards, and Interstate School Leaders Licensure Consortium documents. Candidate assessments are comprehensive and integrated throughout the Teacher Education Program (EPSB CAP Guide indicator 1.3). Multiple assessments are made of knowledge, skills, and dispositions and are used to base decisions about the candidate (EPSB CAP Guide indicators 1.4 and 1.6). The **Undergraduate and Graduate Transition Points Documents** more explicitly articulate initial and advanced candidate assessment information (see Appendix A, part a).

Program evaluation is based on successful completion of the Educational Professional Standards Board (EPSB) and National Council for the Accreditation of Teacher Education (NCATE) mandated Program Review process (EPSB CAP Guide indicator 1.2). Program review occurs in several ways: 1) Every five years, each educator preparation program undergoes a mandatory (external) educator preparation Program Review process, 2) On campus, each degree-program must complete the Annual Assessment Report and Plan, and 3) Each program at the university undergoes an internal institutional program review every five years. Each of these reviews serves a different assessment function. Educator preparation Program Review reviews requires accountability for such things as an introduction to and integration of the units' **Conceptual Framework** to each educator preparation program; as well as accountability for state standards, initiatives, national learned society standards, NCATE themes and candidate and program assessment. The Annual Assessment Report requires the use of candidate performance data to evaluate program quality and drives program change to ensure quality preparation experiences for all education program candidates. The internal 5-year evaluation of each program is to measure progress and ensure continued adherence to university, state, and SACS expectations.

All faculty members are evaluated annually, as required by the university, according to the process and framework set forth in the College of Education's Faculty Evaluation Plan (anticipated acceptance January 2003). This plan is in compliance with the policies that govern faculty evaluation, tenure, promotion, and post-tenure review. The annual review serves two functions: 1) To inform faculty about professional strengths and weakness and the need to pursue faculty development activities, and 2) to determine merit pay shares.

Evaluation of the College of Education progress is ongoing and reflects the annual review of the progress that has been made in regard to achieving the goals and objectives set forth to accomplish teacher education reform. The Executive Committee for the Transformation of Teacher Education has been responsible for overseeing the implementation of the objectives set forth as part of a self-study process that began in the spring of 1999. Each summer the members of this committee revise the Transition Plan to account for the fulfillment of stated goals and objectives, and identify of new goals or objectives and priorities. A copy of the current, Transition Plan is attached (See Appendix B).

The Continuous Assessment Plan (CAP) requires quantitative (e.g., Praxis II scores) and qualitative data (e.g., informal interview or focus group data from recent graduates) from faculty, candidates, alumni, and members of the professional community to measure candidate and program success. As the system is refined, predictors of candidate success will be identified through analyses of both the quantitative and qualitative data (EPSB CAP Guide indicator 1.7).

The CAP is a procedural guide in accordance with NCATE Standard 2, which states, "The unit has an assessment system that collects and analyzes data on applicant qualifications, candidate and graduate performance, and unit operations to evaluate and improve the unit and its programs." In addition, the assessment and evaluation system will be monitored ensure fairness, accuracy, and consistency as it is applied to all candidates (EPSB CAP Guide indicator 1.8).

Generalized Timeline of Continuous Assessment Plan (CAP)

Pre -Phase I (the CAP document)

The CAP was drafted by the Educational Assessment Committee (October-November 2002), and will move through several stages of review: 1) It is first to be reviewed by the Executive Committee for the Transformation of Teacher Education (concerns generated by this group will be addressed by the Educational Assessment Committee). 2) The CAP will then be presented to members of the Teacher Education Committee (TEC; with faculty, candidates, professional community representatives) along with recommendations for approval. 3) Next, it will be presented to the P-16 council (superintendents and principals from the region) for input; and simultaneously, posted on the COE website for faculty input review. A final version will be completed by May 2003

Phase I (early implementation)

The collection and analyses of numerous data points have been in place for many years (e.g., ACT scores of applicants, GPA of candidates, program assessment plans and reports). These data are maintained in the university-wide database maintained by Information Technology. Currently, several new or revised data collection instruments are either in-development or in the pilot-testing phase (details follow)*. These tools will allow the tracking of important variables related to both candidate performance (e.g., disposition rubric) and program quality (e.g., alumni survey). In addition, the Professional Education Unit (PEU) has recently created a database within its Educational Service Unit that will enable more timely collection, analysis, and distribution of candidate performance data. The assessment system as a whole is set up to allow for merging of existing data that is stored at the university level and the new database in the College of Education.

Phase II (implementation cycle)

The CAP, once fully in place, calls for cyclical evaluation (semester by semester, annually, or every five years). Oversight of the plan is the responsibility of the Educational Assessment Committee, which includes an assessment coordinator, a candidate, and faculty from each degree program. The implementation of the plan is carried out within the Education Service Unit where staff are responsible for data entry and the assessment coordinator is responsible for data analyses and data distribution.

Semester by Semester:

Candidate Assessment*

Pre- Candidate: Data are entered into the database system upon application to the Teacher Education Program and analyzed and compared to admission criteria.

Candidate data: Data are entered into the data base system each semester to reflect the dynamic nature of candidate achievement. These data are summarized and distributed to academic advisors and department chairs for use at each transition point.

Candidate Decisions: All decisions regarding progression in the program are recorded and maintained in the Educational Service Unit.

* These data are entered into a newly created (Fall 2002) database in the Educational Service Unit by staff within the Unit, including an assessment coordinator.

Program Evaluation:

Educator Preparation Programs Annual Assessment Review and Plan (Nichols Five Column Model).

Primary oversight for this review is from the Provost Office (as part of the university-wide strategic plan).

One faculty member from each program is responsible for directing the review process and it involves, analysis, input, and decision-making from program faculty and the department chair.

Data are pulled off the database and organized, analyzed and distributed in a variety of ways:

Aggregated data for teacher education candidates occurs at each transition point to make it possible for the Assessment Coordinator/ Educational Assessment Committee to identify general trends or patterns linking one or more assessment variables to candidate performance.

Program specific candidate data is collected and analyzed each summer and distributed to appropriate program faculty and department chairs or directors.

Program review by faculty occurs each fall. Program faculty meet to review the data to evaluate progress toward fulfilling the goals articulated in the previous year's Program Assessment Plan. Data based decisions drive program improvement.

Annual Assessment Report – Each October, a report articulating the outcome of the faculty review. In addition, the Annual Assessment Plan is developed and submitted to the Provost and it states the actions/changes identified and embraced by program faculty to improve candidate and/or program success during the upcoming year.

Unit Annual Review

The members of the Executive Committee for the Transformation of Teacher Education Program annually review the status of the progress made toward fulfilling goals and objectives of the Transition Plan. Once the status of each objective has been determined the Executive Committee considers the status of the “whole” in light of emerging or continuing priorities and revises the plan to reflect decisions that have been made.

The revised plan establishes the immediate and long-range objectives to be fulfilled to best ensure the transformation of teacher education.

Annual Faculty Evaluation:

Is required for all tenured and tenure track faculty.

Faculty members develop and submit a portfolio, which is evaluated according to the policies, procedures, and standards set forth in the College of Education's Faculty Evaluation Plan.

Five-Year Program Review (and corresponding MSU and NCATE review):

Timelines and Program Review Requirements are distributed by the Education Professional Standards Board (EPSB)

EPSB information and additional Unit expectations, timelines, and reporting systems are shared with Program Review writers who have been selected by Program Chairs or faculty

The EPSB conducts an evaluation of submitted materials for each program and determines eligibility for continued certification

Detailed Timeline of Improvements to the System:

Graduate Transition Points Document – presented for approval fall 2002.

Disposition Rubric – distributed for pilot testing fall 2002, revisions spring 2003, and systematic implementation fall 2003.

Portfolio Rubric – distributed for pilot testing spring 2003, revisions summer 2003, and systematic implementation fall 2003.

National Database for Teacher Education Program Follow-up – acquire fall 2002, survey TEP alumni June 2003; survey employers June 2003.

Faculty Evaluation – department evaluation plans are currently in place. College Faculty Evaluation Plan, if approved, implemented January 2003.

Revised Clinical Experience Questionnaire – development winter 2002-2003, trial period spring 2003, systematic implementation fall 2003.

Revised MSU Supervisor Survey – development fall 2002, trial period spring 2003, systematic implementation fall 2003.

Revised Cooperating Teacher Survey – development fall 2002, trial run spring 2003, systematic implementation fall 2003.

Survey Data from the Kentucky Department of Education Website – students teachers, interns, and employers associated with Morehead State University will be strongly encouraged to participate in this survey. The resulting data will be incorporated into the Assessment Plan.

Note:

Other existing data sources (e.g., KTIP forms, PRAXIS scores) are already included in the Transition Points documents (see attached- Appendix A).

More details about future revisions and other details are available at :<http://www.msucoe.org/capmsu.html>

UNDERGRADUATE TEACHER EDUCATION CANDIDATE TRANSITION POINTS
11/08/02

Transition Points	Assessment Data Considered	Decision Maker(s)	Outcome Options
1) Admission to TEP	<ul style="list-style-type: none"> • ACT, PPST, or GRE Score(s) • Writing Sample • Recommendation Forms, Initial Dispositions • Overall GPA (2.5) for minimum 45 sem hrs. • Successful completion ENG 100, 200, PSY 154, CMSP 108, EDF 207, and 211 • Department Interview Results 	Teacher Education Council	<ul style="list-style-type: none"> • Department/Program Committee recommends students for admission to Program. • Director of Educational Service Unit compiles lists from each program and presents whole list to Teacher Education Council • Teacher Education Council approves or does not approve recommendation made and student informed in writing of the recommendation
2) Prior to Student Teaching	<ul style="list-style-type: none"> • GPA (2.5), in all areas • Completion of Required Coursework • Completion of required PRAXIS Exam(s) • Disposition Evaluation (TBA) 	Director of Educational Services Unit (DESU)	<ul style="list-style-type: none"> • Eligible or not eligible for Enrollment in Student Teaching and Placement in Public School. Candidates informed in writing by DESU. When ineligible, deficiencies described in writing.
3) Student Teaching Evaluation	<ul style="list-style-type: none"> • KTIP or Other Observation Feedback • Portfolio Documents that address each New Teacher Standard 	<ul style="list-style-type: none"> • MSU Supervisor • Cooperating Teacher 	<ul style="list-style-type: none"> • Successful completion of Student Teaching and Capstone
4) Program Completion	<ul style="list-style-type: none"> • Fulfilled all program requirements (transcript) • Fulfilled all certification eligibility requirements 	<ul style="list-style-type: none"> • Office of the Registrar • Certification Officer (MSU) tracks • State 	<ul style="list-style-type: none"> • Eligible for graduation, diploma. (Informed in writing if ineligible for graduation) • Notified, in writing, (at last meeting of 499c classes) of any deficiencies that need to be handled to be recommended for certification. • Letter of eligibility stating certification area(s)

3. Program Experiences

The program experiences in the Earth and Space Science (8-12) certificate program consists of a number of parts. First, there is the Morehead State University general education program, which requires reading and writing practice, speaking, and computer and mathematics literacy as a base. This program also requires area studies in humanities, social sciences, science and practical living.

The professional education portion of the program includes a number of courses with principles and practice of teaching with appropriate field and clinical experience as shown in the matrices below.

These courses include:

- EDF 207 – Foundations of Education (3 semester hrs.)
- EDF 211 – Human Growth and Development (3 semester hrs)
- EDF 311 – Learning Theories in the Classroom (3 semester hrs)
- EDSE 312 – Teaching Skills and Media (3 semester hrs)
- EDSP 332 – Teaching the Exceptional Student (2 semester hrs)
- EDSE 416 – Student Teaching (12 semester hrs)
- EDSE 499C – Teaching in Today's Schools (2 semester hrs)

These are complemented by the required methods courses,

- SCI 402 – Integrated Biol., Math and Physical Science Teaching Methods (3 semester hrs)
- SCI 403 – Integrated Biology, Mathematics and Physical Sciences Field Experiences in Teaching (3 semester hrs)
- SCI 497C – Senior Seminar in Physical Science Education (2 semester hrs)

Syllabi for these courses are available at the MSU College of Education web site,

<http://www.msucoe.org/syllabi.html>

These courses focus on meeting the new teacher standards of the Kentucky department of Education.

The earth and space science portion of the program provides a complete introduction to earth and space sciences with a fairly complete set of laboratory experiences. The specific science and math classes required are:

- CHEM 111 – Principles of Chemistry I (34 lab hours)
- PHYS 110 – Concepts of Astronomy
- PHYS 201 – Elementary Physics I and Phys 201A – Lab (34 lab hours)
- SCI 110 – Introduction to Scientific Computing
- SCI 570 – Earth Science
 - or GEOS 303 – Planetary Geology
- GEOS 108 – Physical Geology (34 lab hours)
- GEOS 201 – Historical Geology (34 lab hours)
- GEOS 240 – Oceans
- GEOS 276 – Geologic Methods (34 lab hours)
- GEOS 315 – Sedimentation and Stratigraphy (68 lab hours)
- GEOS 325 – Structural Geology (34 lab hours)
- GEOS 350 – Geomorphology (34 lab hours)
- GEOS 379 – Invertebrate Paleontology (68 lab hours)
 - or GEOS 410 – Geol. History of Plants and Animals (34 lab hours)

These courses focus on providing the science content that is appropriate for a teacher who will be teaching the earth and space science content needed for the Kentucky Curriculum and Assessment requirements. In addition, the variety of classroom strategies, reading materials, and laboratory assignments will reinforce the methods needed to illustrate the Learner Goals to be reached under KERA. 374 hours of practical laboratory experience (not counting data reduction, data reflection, or report writing) provide field experience needed both in teaching and preparing secondary school laboratories. These labs also model guided inquiry and inquiry based learning. Brief course descriptions are included below as pp 15 – 16.

Matrices for the field experiences, New Teacher Standards, the National Science Teachers Association Standards, and the EPSB Strategic Themes are shown below to make these links clear.

Catalog Descriptions of Required and Elective Courses in Science for Earth and Space Science (8-12) Certification Program

CHEM 111. Principles of Chemistry I (3-2-4). *Prerequisite: Math 093 with a grade of "B" or better or enhanced ACT mathematics score of 20 or higher.* An introduction to stoichiometry and chemical equations, electronic structure of atoms and molecules, periodic properties, gases, phase equilibria and solutions with laboratory. Primarily for natural science and pre-professional students. This course satisfies the area studies-natural and mathematical sciences for general education.

PHYS 110, Concepts of Astronomy. (3-0-3); An introduction to the study of astronomical phenomena: motion of the sky, planetary science, the sun as a star, solar astrophysics, stars and stellar evolution, and cosmology – the structure and evolution of the universe. This course satisfies the area studies-natural and mathematical sciences for general education.

PHYS 201. Elementary Physics I. (3-0-3); *Prerequisite: one of the following CHEM 111, Math 141, 174, 175, ACT Math subscore of 22 or above.* Kinematics, laws of motion, work and energy, impulse and momentum. Gravitation, rotation and equilibrium. Elasticity, fluids and simple harmonic motion. Heat, heat transfer, thermodynamics, waves and sound. This course satisfies the area studies-natural and mathematical sciences for general education.

PHYS 201A. Elementary Physics I Laboratory. (0-2-1). *Co-requisite: PHYS 201.* Laboratory for PHYS 201

SCI 110. Introduction to Scientific Computing. (3-0-3) *Prerequisite: ACT math subscore of 18 or better or grade of "C" or better in MATH 152.* An introductory computing course emphasizing fundamental computing tools and techniques and their application to solving scientific problems. Topics include operating systems, hardware, popular and scientific software, and electronic communication. This course satisfies the area studies-natural and mathematical sciences for general education.

SCI 570. Earth Science. (3-0-3). *Prerequisite: Permission of Instructor.* Selected topics from the geological sciences. (Especially designed for in-service and pre-service teachers).

GEOS 108. Physical Geology. (3-2-4); Earth materials, structures, and processes for geology majors and others who wish to take upper division GEOS courses. Lab provides hands-on experience in rock and mineral identification and the use and interpretation of topographic and geologic maps. This course satisfies the area studies-natural and mathematical sciences for general education.

GEOS 201. Historical Geology. (2-2-3); *Prerequisite: GEOS 108.* Introduction to the geologic (rock) record of major physical and biological events in Earth's evolution.

GEOS 240. Oceans. (3-0-3); I. General introduction to marine geology, chemical oceanography, physical oceanography and marine biology.

GEOS 276. Geologic Methods. (2-2-3); *Prerequisite: GEOS 201 or permission of instructor.* Basic field, office and laboratory techniques and instruments used in geologic studies.

GEOS 303. Planetary Geology. (3-0-3); *Prerequisites: GEOS 108 and MATH 093 or higher or an ACT math subscore of 18 or greater.* A study of the processes affecting planetary origins and evolution with an emphasis on processes uncommon on earth (impacts, geology of icy bodies, planetary rings, etc.), particularly in the outer reaches of the solar system The processes of planetary exploration and the various methods of data gathering from interplanetary probes will be examined.

GEOS 315. Sedimentation and Stratigraphy. (2-4-4); *Prerequisite: GEOS 201.* Origins and characteristics of sediments, sedimentary structures, depositional environments, facies, systems tracts,

sequences and sedimentary basins. Lab provides hands-on experience in sediment analysis and techniques used in reconstructing stratal geometries.

GEOS 325. Structural Geology. (3-2-4); Prerequisites: GEOS 201; MATH 141 of equivalent. Geologic structures, rock mechanics and geometrical techniques used in descriptive analysis. Emphasis on faults, folds, shear zones, cleavage, foliation and lineation.

GEOS 350. Geomorphology. (2-2-3); Prerequisite: GEOS 108. Landforms and geologic processes that shape Earth's surface. Lab emphasizes use of topographic maps, areal photographs and remotely sensed images in landform recognition and interpretation.

GEOS 379. Invertebrate Paleontology. (2-4-4); Prerequisites: GEOS 201. Invertebrate animals, their morphology, classification, paleoecology, phylogeny and stratigraphic succession; faunal assemblages and research techniques.

GEOS 410. Geological History of Plants and Animals. (2-2-3); Prerequisites: GEOS 201. Evolutionary history of plants and animals throughout geologic time.

Notes: 1. In the list above the notation [(**Class Hours - Laboratory Hours - Semester Hours Credit**)] should be interpreted as : number of 50 minute hour meetings/wk - number of 70 minute hour lab time/wk - academic credit. 2. Complete syllabi for the professional education and educational methods for science are available at: <http://www.msucOE.org/syllabi.html>

Earth and Space Science (8 – 12) Program Field and Clinical Experiences

F. Exp. Level	Courses	Field Hours Required	Expected Experiences	Actual Hours
I	EDF207	16	General Observation: Diversity and Exceptionality School Board Meeting or site based council	12 2 2
I	EDF211	16	Diversity Exceptionality	4 12
I	EDF311	16	Support Roles Management, Grading, etc. Individual tutoring	12 4
				48total
II	EDSE312	43	Observations: General Technology skill development	10 33
II	EDSP332	10	Observations: Exceptionality One on One	10 5
				Total 58
III	SVI 402	5	Observation	5
III	SCI 403	12 10 15 30	Content area guided observation Content area tutoring Content area small group instruction Large group/whole class teaching	12 8 12 24
				Total 61
IV	EDSE 416	241	Observation Teaching Participation Conferences	40 135 30 36
				Total 241

MATRIX 1. Program and Links to the New Teacher Standards

Courses	NTS I Design / Plan Instruction	NTS II Creates/ Maintains Learning Climate	NTS III Implement / Manage Instruction	NTS IV Assess/ Commun. Learning Results	NTS V Evaluate Teaching/Learning	NTS VI Collaborate	NTS VII Professional Development	NTS VIII Content Knowl.	NTS IX Technol.
EDF 207	I	I			I	I			I
EDF 211		I		I					I
EDF 311	D	D	D	D	D	I	I		D
EDSP 332	I	I	D	I	I	I	I		I
EDSE312	D	D	D	D	D	D	I		S
EDSE 333	D	D	D	I	I	I			D
EDSE 499c	D	D	D	D	D	I	D	S	S
EDSE 416	S	S	S	S	S	D	D	S	S
CHEM 111		I				D		S	D
PHYS 110								D	I
PHYS 201						I		D	I
SCI 110	I			I		I		D	S
SCI 570	D			D		I		S	D
GEOS 108	I	I				D		S	I
GEOS 201						I		S	I
GEOS 240	I					I		S	I
GEOS 276	I			D		D		S	D
GEOS 303						I		S	I
GEOS 315	I			D		I		S	I
GEOS 325	I					I		S	I
GEOS 350	I					I		S	I
GEOS 379	I					I		S	I
GEOS 410						I		S	I
SCI 402	D	D	D	D	D	I	I		D
SCI 403	D	D	D	D	D	I			D
SCI 497C	D	D	S	D	S	I	I		I

I = Introduction, D = Development-The standard is explored, S = Skill - The standard is demonstrated