College of Education and Human Development
George Mason University
Course Syllabus

EDUC 514 – Teaching Science K-6 in International Schools
Spring 2011
January 5 – April 20
4:30 – 7:10 p.m.

Professor: Dr. Michelle Lombard

Office Hours: after class or by appointment

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Course Description: Covers the theory and practices of effective teaching of K-8 science in international schools. Uses laboratory and discovery techniques to design essential science components and integrate them with other disciplines. Introduces students to the design and implementation of activities for developing concepts, solving problems, and strengthening thinking skills in K-8 science.

EDUC 514 is a licensure course in elementary education, as such and upon successful completion of the sequence of licensure courses in FAST TRAIN and 1 year of teaching in an authorized PYP school, you will be eligible to apply for the IB Teacher Award Scheme: Level I.

Course Delivery:

Course delivery will be accomplished in a variety of ways in order to meet the needs and styles of all learners. Methods of instruction will include:

- Presentations assisted by Power Point
- Whole group and small group discussions
- Cooperative learning groups
- Student presentations
- Field projects
- Video presentations

- Textbooks and journal articles
- Blackboard

Course Objectives:

Students completing EDUC 514 will:

- Understand how children learn and develop
- Understand the central concepts, tools of inquiry, applications, and structures of science
- Understand how students differ in their approaches to learning
- Understand the importance of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation
- Plan instruction based upon knowledge of subject matter, students, the community, and curriculum goals
- Understand the uses of formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner
- Be a reflective practitioner who continually evaluates the effects of his/her choices and actions on others and who actively seeks out opportunities to grow professionally
- Foster relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well-being
- Develop an understanding and appreciation of the organization and excitement of science
- Build a repertoire of science teaching and assessment strategies by reading, writing, observing, participating and reflecting on the teaching of science
- Develop strategies to help students to become scientifically literate, think critically and creatively, and see relationships among science, technology and society
- Create a unit plan (PYP) that contains science lessons/activities that include:
    - learning experiences that make aspects of content meaningful to students (*National Standards, Constructivism, and Experimental Design*)
    - Learning opportunities that support students intellectual, social, and personal development (*Science Process Skills, Constructivism, and Cooperative Learning*)
    - Instructional opportunities that are adapted to diverse learners (*Multiple Intelligences and Science Integration*)
    - Instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills (*Problem Solving & Thinking Skills*)
    - A learning environment that encourages positive social interaction, active engagement in learning, and self-motivation (*Hands-On Learning and Cooperative Learning*)

- Foster active inquiry, collaboration, and supportive interaction in the classroom (*Questioning Strategies, Classroom Management, and Cooperative Learning*)
- Formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner (*Assessment and Evaluation*)
- Integration of science with other subject areas
- Highlight safety issues
- Real world application
- A cohesive unit of study
- Strengthening existing knowledge of science content through hands-on investigations, reading, writing, and communicating
- Working cooperatively with peers to teach and discuss science and science teaching
- Identifying past, present, and future movements in science education

Relationship to Program Goals and Professional Organizations
EDUC 514 addresses the following program goals and professional standards:

Grad School of Education Goals

Diversity
- Infuse diversity into the experience, training, and practice of students, faculty, and staff
- Provide support and mentoring of minority students, faculty, and staff
- Enhance recruitment and retention of minority students, faculty, and staff
- Ensure that diverse issues are reflected in curriculum and syllabi
- Ensure that diverse issues are reflected in GSE partnerships with schools, communities, and families

Reflective, Research-based Practice
- Encourage reflective and research-based practice for GSE faculty and for our students in their own practice

Correlation Chart: INTASC Standards for Beginning Teacher Licensing and Development to EDUC 514 Course Topics and Class Assignments

INTASC Standards	Course Topics	Class Assignments
Principle 1: Content *The teacher understands the central concepts, tools of inquiry, applications, and structures of science and of the science disciplines he or she teaches and can create learning experiences that make these aspects of content meaningful to students.*	Constructivism Hands-On Learning Science Process Skills National Science Standards Inquiry/Questioning Strategies Assessment & Evaluation Problem Solving & Thinking Skills Multiple Intelligences Experimental Design Science Integration	Unit Plan Evaluation of Teacher Guides Articles & Readings Field Experience

	Science Connections- Technology	
Principle 2: Student Development *The teacher understands how children learn and develop and can provide learning opportunities that support their intellectual, social, and personal development.*	Constructivism Hands-On Learning Science Process Skills Inquiry/Questioning Strategies Assessment & Evaluation Problem Solving & Thinking Skills Multiple Intelligences Cooperative Learning	Unit Plan Evaluation of Teacher Guides Articles & Readings Field Experience
Principle 3: Student Diversity *The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners*	Assessment & Evaluation Problem Solving & Thinking Skills Multiple Intelligences Cooperative Learning Science Integration Science Connections - Technology	Unit Plan Evaluation of Teacher Guides Field Experience Articles & Readings
Principle 4: Instructional Variety *The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.*	Science Process Skills Inquiry/Questioning Strategies Problem Solving & Thinking Skills Multiple Intelligences Experimental Design Cooperative Learning	Unit Plan Evaluation of Teacher Guides Field Experience Articles & Readings
Principle 5: Learning Environment *The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.*	Constructivism Hands-On Learning Science Process Skills Inquiry/Questioning Strategies Multiple Intelligences Science Safety Classroom Management Cooperative Learning Science Connections - Technology	Unit Plan Field Experience Articles & Readings
Principle 6: Communication *The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.*	Cooperative Learning Science Connections – Technology Classroom Management Inquiry/Questioning Strategies	Unit Plan Classroom Participation Field Experience Articles & Readings
Principle 7: Curriculum Decisions *The teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.*	National Science Standards Assessment & Evaluation Classroom Management Science Integration Science Resources	Unit Plan Classroom Participation Field Experience Articles & Readings
Principle 8: Assessment *The teacher understands and uses formal and informal assessment*	National Science Standards Inquiry/Questioning Strategies Assessment & Evaluation	Unit Plan Classroom Participation Evaluation of Teacher Guides

strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner	Cooperative Learning Performance Assessment	Field Experience Articles & Readings
Principle 9: Reflective Practitioners *The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others and who actively seeks out opportunities to grow professionally.*	Assessment & Evaluation	Classroom Participation Electronic Journal Field Experience
Principle 10: Community Membership *The teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well-being.*	Science Connections – Technology Science Resources	Field Experience

Correlation Chart: ***PYP Practitioner Award Programme Requirements (pages 30-38)***

Course	Curriculum	Teach/Learn	Assessment	Professional
Teaching Elementary Science in International Schools	A, B, C, D	E, F, G, H	I, J, K, L,M	N, O

Textbooks

All required books have been ordered through the GMU bookstore.

Required Texts:

Rezba, R. J., Sprague, C., Matkins, J. J., & McDonnough, J. T. (2007). Learning and Assessing Science Process Skills. Fifth Edition. Iowa: Kendall-Hunt Publishing Co. ISBN: 978-0-7575-3784-4

Recommended Texts:

Assessing Hands-On Science: A Teachers Guide to Performance Assessment

Science Experiments By the Hundreds

Primary Science: Taking the Plunge

*National Science Education Standards
can be viewed at www.nsta.org/onlineresources/nses.asp

A Short History of Nearly Everything and A Really Short History of Nearly Everything by B. Bryson

The Secret House : The Extraordinary Science of an Ordinary Day by D. Bodanis

Eight Essentials of Inquiry-Based Science, K-8 by E. Hammerman

IB Primary Years Programme

Publication	URL
Making the PYP Happen: A curriculum framework for international primary education	http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_mph_0912_2_e.pdf
Making the PYP Happen: Pedagogical leadership in a PYP school	http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_mph_0912_1_e.pdf
Programme standards and practices	http://occ.ibo.org/ibis/documents/general/g_0_iboxx_amo_0509_1_e.pdf
A continuum of international education (2009)*	http://www.ibo.org/communications/powerpoint/index.cfm
IB Learner Profile Booklet and Video*	http://www.ibo.org/programmes/documents/learner_profile_en.pdf http://www.ibo.org/programmes/profile/
A basis for practice: the Primary Years Programme	http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_mon_0108_1_e.pdf
Learning in a language other than mother tongue in IB programmes*	http://occ.ibo.org/ibis/documents/general/g_0_iboxx_amo_0804_1_e.pdf http://publication-service.ibo.org/g_0_iboxx_amo_0804_1_e
Developing a transdisciplinary programme of inquiry	http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_poi_0801_1_e.pdf
PYP Exhibition Guidelines	http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_exg_0807_2_e.pdf
The PYP as a model of transdisciplinary learning	http://occ.ibo.org/ibis/documents/pyp/p_0_pypxx_poi_1002_1_e.pdf

All elementary candidates have been enrolled in the online curriculum center for IB and should reference this in their work. Log in is at: http://occ.ibo.org/ibis/occ/guest/home.cfm

Course Requirements

1. Participation **20%**

Students will be expected to actively participate in class by questioning, commenting and critically analyzing relevant issues and topics. Students will make a

presentation and lead a discussion on a journal or research article. Students will read and complete the majority of activities and reflective observations in the textbook.

FAST TRAIN students are expected to attend ***all*** class periods of courses for which they register. In-class participation is important not only to the individual student, but to the class as a whole. Class participation is a factor in grading; instructors may use absence, tardiness, or early departure as de facto evidence of nonparticipation and as a result lower the grade as stated in the course syllabus (Mason Catalog).

Mason uses electronic mail to provide official information to students. Examples include notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback. Students are responsible for the content of university communication sent to their Mason e-mail account and are required to activate that account and check it regularly (Mason catalog). GMU E-mail Web: http://mail.gmu.edu

2. Electronic Journals/Article Critiques 10%

Students will submit two electronic journals/article critiques regarding two of the assigned readings or articles from other sources. The articles should relate to the topics covered in class. Students will peer review the electronic journal entries using the rubric provided in the syllabus.

3. Teacher Guides Evaluation 10%

Students will read and review several commercial teacher guides/textbooks using a self-created rubric. Students will also write a two page evaluation covering topics such as process skills addressed, developmental level, science integration ideas and correlation to standards.

4. Field Project 30%

A. All FAST TRAIN licensure courses have a required Performance Based Assessment (PBA). The Field Project is the PBA for this course. Students will design an integrated, inquiry-based, hands-on science unit (minimum of six connected lessons) that demonstrates an understanding of topics presented during the semester. Students will field test portions, if possible. Units may be based on National or State Standards K-6. Students also need to complete a PYP Planner. Students will post the Unit Plans (anthology entry) to TaskStream for review and grade assignment. Be sure to identify your cohort.

The Teacher Candidate Anthology (TCA) is designed to be a collection of performance-based tasks that are valid samples of candidate work throughout the program. It documents the individual's knowledge, skills, dispositions and ability to teach. Further, it documents the candidate's ability to positively influence PK-6 student learning. Its purpose is to assess the attainment of the Interstate New Teacher Assessment and Support Consortium (INTASC) standards and to provide an avenue for growth and reflection.

Additionally, students are required to submit both a mid-point anthology reflective paper after completing three licensure courses and a final reflective after completing the final licensure courses. Both the mid-point and final anthology will be posted to Task Stream for scoring. Future registrations will

be affected if this requirement is not met by the due dates indicated in the guidelines. Please see the FAST TRAIN website: http://fasttrain.gmu.edu/assets/docs/fast_train/Anthology_Guidelines.pdf for more guidelines about the anthology requirement.

B. Students will create a science portfolio that demonstrates two students' progress in science during a four week period. Portfolios will address assessment of student understanding and show a range of instructional practices. See "Student Observations."

5. Field Experience **10%**

After a "satisfactory" completion of Field Experience a course grade (A – C) will be provided. Please see Field Experience Handbook for specific guidelines. Signed Field Experience Reports must be submitted to the instructor.

6. Final Project **20%**

Take home final exam. Students will select two topics to address that show understanding of issues that are presented during the semester. Responses should be limited to two to three pages, double-spaced.
All assignments should be in APA format.
**If you need access to students in a classroom setting to conduct your Field Project, you can either join a teacher in this class or see me to make arrangements no later than the first week of class.*

Grading Scale for FAST TRAIN

A+ = 100
A = 94-99
A-= 90-93
B+= 85-89
B = 80-84
C = 70-79 – does not meet licensure requirements or Level I award recommendation
F = Does not meet requirements of the Graduate School of Education

Course Withdrawal with Dean Approval

For graduate and non-degree students, withdrawal after the last day of dropping a course requires approval by the student's academic dean, and is permitted only for nonacademic reasons that prevent course completion (Mason catalog). Students must contact an academic advisor in FAST TRAIN to withdraw after the deadline. There is no guarantee that such withdraws will be permitted.

Incomplete (IN)

This grade may be given to students who are in good standing, but who may be unable to complete scheduled course work for a cause beyond reasonable control. The student must then complete all the requirements by the end of the ninth week of the next semester, not

including summer term, and the instructor must turn in the final grade by the end of the 10th week. Unless an explicit written extension is filed with the Registrar's Office by the faculty deadline, the grade of IN is changed by the registrar to an F (Mason catalog); Faculty may grant an incomplete with a contract developed by the student with a reasonable time to complete the course at the discretion of the faculty member. The faculty member does not need to allow up the following semester for the student to complete the course. A copy of the contract will be kept on file in the FAST TRAIN office.

George Mason University Graduate School of Education Expectations

The Graduate School of Education (GSE) expects all students to abide by the following:

Students are expected to exhibit professional behavior and dispositions. See gse.gmu.edu for a listing of these dispositions.

Students must follow the guidelines of the University Honor Code: ***Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.*** (Mason catalog). See http://catalog.gmu.edu/content/php?catoid=15&navoid=1039#Honor for more information.

Students must agree to abide by the university policy for Responsible Use of Computing. See http://mail.gmu.edu and click on Responsible Use of Computing at the bottom of the screen.

Students with disabilities who seek accommodations in a course must be registered with the GMU Office of Disability Resources (ODS) and inform the instructor, in writing, at the beginning of the semester. See www.gmu.edu/student/drc or call 703-993-2474 to access the ODS.

Cell phones should be turned off during class. During whole class discussions, PDAs must be face down and laptops closed.

Class	Date	Topics	Readings
1	1/05	Introductions Hands-On Science Overview Living or Nonliving Self-Inventory	Rezba, Sprague & Fiel, Chapter 1;
2	1/12	Ways Children Learn: Constructivism Hands-On Science/ Process Skill: Observing ***Student Portfolio Rubric*** Article Discussion	Article provided by instructor
3	1/19	Introductions Ways Children Learn: Multiple Intelligences Hands-On Science/Process Skill: Observing	Rezba, Sprague & Fiel, Chapter 2;
4	1/26	Community Building Ways Children Learn: Multiple Intelligences Hands-On Science/Process Skill: Communicating Article Discussion	Rezba, Sprague & Fiel, Chapter 3; Article provided by group #1
5	2/2	Opening: Community Building Ways Children Learn: Learning Styles Inquiry/Questioning Skills Hands-On Science/Process Skill: Classifying	Rezba, Sprague & Fiel, Chapter 4;
6	2/9	Helping Children to Plan and Interpret Investigations Hands-On Science/Process Skill: Classifying Article Discussion	Rezba, Sprague & Fiel, Chapter 5 Article provided by group #2
7	2/16	Opening Standards Based Science Hands-On Science/Process Skill: Inferring ***Teacher Eval. Guides Rubric*** Article discussion	Rezba, Sprague & Fiel, Chapter 6;
8	2/23	Standards Based Science ***Teacher Guides Evauations Due*** Hands-On Science/Process Skill: Predicting Article Discussion	Rezba, Sprague & Fiel, Chapter 7 Article provided by group #3
9	3/2	Opening Instructional Variety Hands-On Science/Integrated Process Skill: Identifying Variables Article Discussion	Rezba, Sprague & Fiel, Chapters 8 and 9;
10	3/9	Instructional Variety (cont.) Hands-On Science/Integrated Process Skills: Constructing a Table of Data and Constructing a Graph ***Article Critique #1 (Due)***	Rezba, Sprague & Fiel, Chapter 10 Article provided by group #4
11	3/16	Opening Science Integration	Rezba, Sprague & Fiel, Chapter 11 & 12;

		Hands-On Science/Integrated Process Skills: Describing Relationships Between Variables	
12	3/23	Science Integration Hands-On Science/Integrated Process Skills: Acquiring & Processing Your Own Data & Analyzing Investigations Article Discussion	Rezba, Sprague & Fiel, Chapters 13 & 14 Article provided by group #5
13	4/6	Assessment Issues Hands-On Science/Integrated Process Skills: Constructing Hypotheses & Defining Variables Operationally	Rezba, Sprague & Fiel, Chapters 15 & 16;
14	4/13	Assessment Issues Hands-On Science/Integrated Process Skills: Designing Experiments and Experimenting Course evaluations Course reflection Article Discussion	
15	4/20	Opening Review **Article Critique #2 due** ***Final Exam***	

Important Dates To Remember:

: Student Portfolios due April 6 or April 13, 2010
: Article Critiques due February 2 and March 16, 2010
: Unit Plans due April 6 or April 13, 2010
: Take Home Final Exam due April 20, 2010 by 7:10 p.m.

Assessment Rubrics

Class Participation

Rating Demonstrated Competence

Excellent (90-100)
Consistently asks thoughtful, analytic questions or makes astute observations that indicate reflection and reading of assigned material. Participates very actively in small groups or class discussions. Attends class regularly and on time.

Competent (80-89)
Frequently asks questions or makes observations that indicate reflection and some reading of assigned material. Participates very actively in small groups or class discussions. May be tardy or absent two or three times.

Minimal (70-79)
Rarely asks questions or makes observations that indicate familiarity with the assigned readings. Does not participate actively in small groups or class discussions. Is tardy or absent more than three times.

Unsatisfactory (69 or below)
Does not ask questions or make any observations that indicate reading of assigned material. Does not participate in small groups and is frequently tardy or absent.

Electronic Journal Rubric

	Relevance	Summary	Critique	Due Date
Outstanding (90-100)	Relates personal reactions and/or raises relevant questions throughout response.	Summarizes article clearly, articulately and briefly.	Critique is expressed clearly and supported with reference(s).	Instructor receives journal before or on due date.
Above Expectations (80-89)	Relates a few personal reactions and/or raises relevant questions to elementary science.	Summarizes artile clearly and briefly.	Critique is expressed clearly and supported with a reference.	Instructor receives journal before or on due date.
Meets Expectations (70-79)	May relate personal reactions and/or raises relevant questions to elementary science.	Summarizes article.briefly with some coherence.	Critique is expressed clearly.	Instructor receives journal on due date.
Minimal (0-69)	Stretches to raise relevant questions and/or make a relevant personal reaction to elementary science.	Summary is unclar and poorly written.	Critique is unclear.	Instructor receives jornal after due date.

Student Observations

Objective: Observe two students experience science to learn more about an elementary science program, student development, differences in ability, learning styles and other related issues.

Assignment:

1. Select two students of differing abilities (one student must be in the lowest quartile).
2. Gather background information (from teacher, student and other sources such as report card or Stanford 9).
3. Observe students on four different occasions for a science lesson (45 minutes minimum). Both students may be observed during the same lesson.
4. Select two observations and write two qualitative essays that include:
   - Background information on students
   - Lesson objectives
   - Summary of observation notes describing student behaviors, attitudes, interactions and abilities
   - Assessment of student work/understanding/proficiency
   - Ideas for follow-up lessons that would increase students' understandings

Rubric:

	Background Information	Lesson Objectives and Standards	Summary of Observation	Assessment	Follow-Up
90-100	Includes rich, detailed information on students, including personal information and academic background.	Lesson objectives and standards are clear. Includes concepts, skills, understandings, and process skills being addressed.	Summary of observation is well written with lots of details, description and astute observations. Focuses on students' behaviors, attitudes and understandings.	Assessment was based on observation notes and student work. Assessment was well written and focuses on various aspects of science instruction.	Ideas for follow-up (extension or remediation) stem from the observation and assessment. Includes input from student and teacher. Follow-up ideas include understanding of learning styles and/or MI theory.
80-89	Includes detailed information on students, including personal information and academic background.	Lesson objectives and standards are mostly clear. Includes concepts, skills, understandings, and process skills being addressed (3 out of 4).	Summary of observation is well written with details, description and observations. Includes some observations on students' behaviors, attitudes and understandings.	Assessment was based on observation notes and student work. Assessment was well written and focuses on an aspect of science instruction.	Ideas for follow-up (extension or remediation) stem from the observation and assessment. Includes input from student and/or teacher. Follow-up ideas include understanding of learning styles and/or MI theory.
70-79	Includes pertinent information on student, including personal information and academic background.	Lesson objectives and standards clear with a little confusion. Includes concepts, skills, understandings, and process skills being addressed (2 out of 4).	Summary of observation is well written with a few details, some description and observations. Includes a few observations on students' behaviors, attitudes and understandings.	Assessment was based on observation notes and/or student work. Assessment focuses on an aspect of science instruction.	Ideas for follow-up (extension or remediation) stem from the observation and assessment. May include input from student and/or teacher. Follow-up ideas may include understanding of learning styles and/or MI theory.
0=69	Little background information on student,	Lesson objectives and standards unclear. Includes concepts, skills, understandings, and process skills being	Summary of observation is written with few details, little description and few observations. Little information on	Assessment was based on observation notes and/or student work. Assessment	Ideas for follow-up (extension or remediation) stem from the observation and assessment. Does

		addressed (1 out of 4).	students' behaviors, attitudes and understandings.	touches on an aspect of science instruction.	not include input from student and/or teacher. Follow-up ideas do not include understanding of learning styles and/or MI theory.

Fieldwork Information, Placement, and Documentation

Students in both the elementary and ESOL Programs must fulfill field experience as a requirement of the State of Virginia. Students will complete 20 hours per licensure course. Please see individual syllabi for specific requirements; instructors may revise this number of hours based on course requirements.

Students in the ESOL program should divide their fieldwork between elementary and secondary settings over the course of their program. While enrolled in the 511 course, students in the ESOL program should plan to do their fieldwork in an elementary setting.

Placement and Site Selection

Local (Washington DC area) students: The FAST TRAIN office will place local students. Please complete the **"Fieldwork Placement Form" (page 4)** and submit to the fieldwork coordinator at your earliest convenience but no later than the dates below to ssteeley@gmu.edu. As soon as possible after you submit the form, the fieldwork coordinator will contact you with your placement.

International & Other U.S.-based Students: Please follow the "Site Selection Guidelines" **(page 3)** for selecting a fieldwork site.

All Students:

If you are currently working in a school, you may be placed in your school. Permission from the school must be provided (see sample letter on **page 5).**

Spring Planning Document Due Dates: *
- Elementary students in EDUC 513 & 514
- Students in EDUC 537 and EDUC 511

Summer Due Dates: *
- Students in summer classes who need a local placement in the fall

Fall Due Dates: *
- All students

*See FASTTRAIN website for due dates.

Documentation of Fieldwork Experiences

All those observing in a classroom are required to submit a **log of hours (page 6 or an instructor-provided alternate with your name, course, and semester) FAST TRAIN Field Experience Supervisor's Report (pp. 7-8)** to your **instructor** by email, fax, or mail along with your fieldwork report no later than **the last date of the semester** of your fieldwork (or by the relevant extended summer deadline). The Log of Hours/Supervisor's Report **must have signatures from either their teachers/ or supervisors before submission.** Those conducting fieldwork in their own schools should provide the **principal/head's permission (page 5)** and an observation log if observing.

Full-Time Summer Courses Timeline:

For courses taken during the full-time intensive summer program, observations must be completed using the due date timeline below.

Field Experience Summer Course Due Dates			
	Session I	Session II	Session III
Courses	EDUC 511	EDUC 512	EDUC 513
	EDUC 514	EDUC 516	EDUC 520
		EDCI 519	EDCI 520
		EDCI 521	EDCI 777**
Field Experience Due Date	November 15	January 30	March 30
** Course must be taken last; begins on March 1 as a summer course; see full schedule for details.			

- ☐ In Progress (IP) grade is given to the student at the end of the course.
- ☐ Field experience requirements are due as indicated on the chart.
- ☐ Final grades are issued for each course once the field experience report is completed and submitted to the instructor for evaluation.
- ☐ Important Note: **Students who plan to graduate in summer, must complete field experience in early August to graduate in time**

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Site Selection Guidelines
International Field Experience Selection of Site/Teacher

In seeking a site for your international field experience placement you should provide the director/principal with the following guidelines:

FAST TRAIN provides the following criteria for consideration in placing FT students. (While not all schools/teachers meet all criteria, the more criteria met the more likely your field experience will be worthwhile)

- Experienced teacher holding credential that you aspire to hold (e.g. elementary, ESOL, special education)
- Excellence in teaching field as noted by director, colleagues and parents
- Experience in mentoring university students/other faculty
- Positive leader in the building
- Willingness to discuss teaching, learning and how to become a good teacher
- Willingness to let you work, under supervision, with small groups or individual students
- Willingness to model "best practices" in the field

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Fieldwork Placement Form

Name:

_____

Phone #: _____

Home Address: _____

_____

E-mail: _____

Program: Elem _____ ESOL _____
Peace Corps /MAI Elementary_____
Peace Corps /MAI ESOL_____

Semester: _____

I. Course Information

Course 1

Course Number _____
Course Name _____
Instructor _____
Describe nature of _____
assignment (child study, _____
classroom observation, _____
sample lesson, etc.) _____
_____
_____
Grade level / range _____

Subject _____
Hours required _____

Course 2

Course Number _____
Course Name _____
Instructor _____
Describe nature of _____
assignment (child study, _____
classroom observation, _____
sample lesson, etc.) _____
_____
_____
Grade level / range _____

Subject _____
Hours required _____

III. Current School Employees

If you are currently employed or have a field site arranged please send the following information:

School
Contact
Supervisor/Teacher

In addition, for those who are completing field experience during employment (for example teaching assistant), attach a signed letter from your principal or supervisor that indicates their understanding of the field experience requirements and their willingness to let you complete the field experience portion of your coursework while employed. Sample letter is below.

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Permission to complete field experience assignments

I understand and am willing to comply with the field experience assignments as required by George Mason University. I am willing to allow my employee

_____

Name of student/teacher

to complete the required hours in my school.

Name:

School:

Position:

Contact information: Phone:_____ E-mail: _____

Date:

_____

Signature of Responsible School Personnel

Observation Record

Student:_____ Student ID: _____
Course(s) requiring observation: _____ _____
Semester: _____

To the Cooperating Teacher:

Please sign below to indicate that the student has observed in your classroom. Please make any additional comments on the back of this sheet. Thank you for your time, effort and support in this endeavor.

Date	Grade	Subject	School	Hours Observed	Teacher Signature

Student's Signature:_____ Date:_____
5/23/2011

FAST TRAIN Field Experience Supervisor's Report

Student Name: _____ Student ID: _____

Confirmed Placement Site: _____Course Number/Name:_____

Contact Person_____ Telephone: _____

E-Mail and Postal Address _____

_____

(above completed by student)

TEACHER EVALUATION FORM

Cooperating/Supervisor's Name: _____

QUALITIES	Excellent	Above Average	Average	Below Average
Personal Qualities				
Dependable				
Punctual				
Professional Qualities				
Can create learning experiences that make subject matter meaningful				
Understands how students differ in their approaches to learning				
Uses a variety of instructional strategies				
Understands individual/group motivation to create a positive learning environment				
Uses effective verbal and non-verbal communication strategies				
Plans instruction based on subject matter, students, community and curriculum goals				
Uses formal and informal assessment strategies				
Engages in critical reflection to improve teaching				
Fosters positive relationships with colleagues, students and families				
Demonstrates knowledge of child development				

** Note: N/A may be used for any unobserved qualities**

Teacher's Additional Comments/Recommendations:

Student's Reflections on Field Experience:

Teacher's/Supervisor Signature: _____ Date: _____

Student's Signature: _____ Date:_____

EDUC 514 Field Experience Assessment Rubric

Demonstrated Competence

Excellent
Completed 20 hours of Field Experience
Responses to all areas are thorough [Description and Reflection] in regards to Teacher, Students, Classroom Management, Curriculum and Instruction
Writes clearly with few stylistic and grammatical errors

Organizes paper in deliberate manner
Reflects thoughtfully for all areas
Supports analysis and application by frequently citing class content
Applies knowledge to future teaching situations

Satisfactory
Completed 20 hours of Field Experience
Responds incompletely to some areas
May write with some lack of clarity and/or consistent stylistic or grammatical errors

May organize paper in loose fashion that is difficult to follow
May not reflect for all areas or does not reflect with depth
Supports analysis by citing class content inaccurately or using few citations
May not apply knowledge to future teaching situations

Unsatisfactory
Did not complete 20 hours of Field Experience
Does not respond to all areas and/or incompletely to some areas
Writes with some lack of clarity and/or many stylistic and grammatical errors
Organizes paper in fashion that is difficult or impossible to follow
Does not reflect for all areas or does not reflect with depth
Does not support analysis by citing class content
Does not apply knowledge to future teaching situations

Evaluator's Comments:

Observation Guide for the Elementary Science Classroom

This guide is to be used to identify essential elements of an effective elementary science classroom.

Physical Environment

In the classroom do you observe:

Charts/Posters of experimental design, graphic organizers, vocabulary lists, KWL, etc…?
Bulletin board displays reflecting current science units/topics?
Student projects displayed that relate to science work?
Science trade books?
Science models?
Hands-on science equipment/materials?
Science kits?
Exploration centers?
Technology: *Windows on Science*, computer software, science internet sites, computers, science videos, etc..?

Learning Climate

In the classroom do you observe:

Students learning science through hands-on investigations?
Students learning science through inquiry-based activities?
A focus on the scientific process---experimental design?
Students actively engaged in the learning process?
Adaptations to meet individual needs of students. Attention to multiple intelligences/learning styles?
Student knowledge and skills being reinforced?
Incorporation of technology?
Integration of science content across the curriculum—math, social studies, language arts, etc..?
Real-world application of activities?
Effective transition and connection of lesson activities?
Implementation of a variety of assessment strategies (performance assessments, rubrics, observation checklists, peer/self assessments, portfolios, journals, etc..)?
Supportive classroom environment to create a community of learners?

The Teacher

In the classroom do you observe:

Effectively managing the classroom by establishing routines?
Effectively managing the classroom by assigning students roles & responsibilities?
Effectively managing the classroom by advanced preparation of materials?
Effectively managing the classroom by ensuring a safe science environment?
Activating prior knowledge of the students through questioning, discussion, and/or assessment?
Presenting the objectives and goals of the lesson?
Defining student/teacher expectations?

Modeling/demonstrating science concepts and procedures?
Using various questioning strategies/techniques during and after the lesson (open-ended, small group discussions, large group discussions, implementing wait time) to assist students in building connections?
Teacher acting as a facilitator?
Assisting students in drawing conclusions and forming generalizations?
Actively observing, recording, and assessing students' responses and participation?
Providing appropriate extension and/or follow-up activities?
Teacher's understanding is evident of content/concepts presented?
Teacher's enthusiasm for science is apparent?

The Students
In the classroom do you observe:
Following a sequence of directions to complete science experiments and investigations?
Active participation in the learning process—on task behavior?
Students motivated to learn science?
Positive student reactions to the lesson/activities?
Working cooperatively and collaboratively in groups?
Using and maintaining science equipment and materials responsibly?
Using critical thinking skills by forming questions and solving problems?
Sharing observations and/or results informally and/or formally by presentations, written reports, science journals, models, displays, graphic representations, etc..?
Engaging and using science process skills—researching, formulating hypotheses, planning & designing an experiment, making insightful observations, predicting, using appropriate measurement tools to gather data, recording and classifying data on charts, graphs, and/or learning logs, analyzing data, communicating findings, etc..?

Unit Plan

Rubric:

	Hands-On/Minds-On	**Lesson Objectives and Standards**	**Instructional Variety**	**Assessment**	**Follow-up/re-teaching**
4	Includes 2 high quality, engaging hands-on/minds-on activities/exper-iments	Lesson objectives and standards are clear and developmentally appropriate. Includes concepts, skills, understandings, and process skills being addressed.	Addresses instructional variety throughout unit. Includes 14/22 from checklist. Integrates with other subjects well and creatively.	Includes various assessments (at least 3) throughout unit to monitor student understanding and differentiate instruction.	Ideas for follow-up (extension or remediation) stem from the observation and assessment. Clearly includes input from student and/or teacher. Follow-up ideas demonstrate a strong understanding of learning styles and/or MI theory.
3	Includes 1 high	Lesson objectives	Addresses	Includes	Ideas for follow-up

	quality, engaging hands-on/minds-on activities/exper-iments	and standards are clear and developmentally appropriate. Includes most of the concepts, skills, understandings, and process skills being addressed.	instructional variety throughout unit. Includes 10/22 from checklist. Integrates with other subjects well.	various assessments (at least two) throughout unit to monitor student understanding and differentiate instruction.	(extension or remediation) stem from the observation and assessment. Clearly includes input from student and/or teacher. Follow-up ideas include understanding of learning styles and/or MI theory.
2	Includes one hands-on/minds-on activities/exper-iment	Lesson objectives and standards are stated and developmentally appropriate. Includes some of the concepts, skills, understandings, and process skills being addressed.	Addresses instructional variety throughout unit. Includes 8/22 from checklist. Integrates with one other subject well.	Includes various assessments (at least one)throughout unit to monitor student understanding and differentiate instruction.	Ideas for follow-up (extension or remediation) stem from the observation and assessment. May include input from student and/or teacher. Follow-up ideas may include understanding of learning styles and/or MI theory.
1	Includes a low-quality, unengaging hands-on/minds-on activity/exper-iment(s)	Lesson objectives and standards are unclear. Does not include concepts, skills, understandings, and process skills being addressed.	Addresses instructional variety throughout unit. Includes 4/22 from checklist. Lack of integration.	Includes one assessment at end of unit to monitor student understanding.	Ideas for follow-up (extension or remediation) stem from the observation and assessment. Does not include input from student and/or teacher. Follow-up ideas do not include understanding of learning styles and/or MI theory.

INTERNATIONAL BACCALAUREATE ORGANIZATION

Section 2a

PYP Practitioner Award Programme Requirements

June 2005

Area of inquiry 1: Curriculum processes

International educators recognize that to develop the knowledge and understandings, skills and attitudes in their students the focus must be on the learner and learning. Thus demonstrating an understanding of the IBO's programme curriculum frameworks and the processes that underpin them is an integral part of the knowledge that an IB teacher should possess.

The practitioner award focuses on developing practical knowledge of how the IB programmes are designed, interpreted and implemented. This lays the foundation for how the programmes are delivered and assessed in support of student learning.

Domain	**PYP Programme targeted understandings**	**Essential questions**
A. International education and the role and philosophy of the IBO programmes	***Award holders will have the opportunity to consider****:* **What is international education and how does the IBO's mission and PYP philosophy promote it?** • a consideration of aims and development of international education, the values and mission of the IBO and the beliefs and values of the PYP programme including the: o PYP perspective on internationalism o the centrality of the learner profile o criteria for assessing international mindedness in the school environment.	***How will participants demonst*** ***and develop the values and phi*** ***school context?***
B. Curriculum frameworks (Principles, structures and practices)	**How is the PYP curriculum framework structured and what principles of learning underpin it?** • the integration of various aspects of the written curriculum, taught curriculum and learned curriculum within the PYP. • a consideration of underlying learning theory (Learners constructing meaning model) including a comparison of constructivist and instructivist models of learning. • an awareness of the concept of balance in the PYP curriculum framework specifically: o between the acquisition of essential skills and knowledge and the search for meaning o between the interdependent elements of the curriculum	***How will participants demonst*** ***PYP's underpinning education*** ***are incorporated into the curri*** ***meaningful learning experienc***

	○ between disciplinary and transdisciplinary planning and teaching. • the essential elements of the PYP curriculum including the: ○ Concepts: the foundations of a transdisciplinary curriculum and structured purposeful inquiry ○ Knowledge: programmes of inquiry, organizing themes and subject knowledge ○ Skills: transdisciplinary and subject specific ○ Attitudes ○ Action: the action cycle, responsibility and action.	
C. Curriculum and instructional design	***What is a programme of inquiry and how are they constructed?*** • the role of transdisciplinary units of inquiry, the PYP exhibition and the planner in synthesizing the essential elements. • the relationship between the programme of inquiry and subject- specific scope and sequences. • the role of the learner profile in synthesizing the essential elements.	***How will participants demonst*** ***the essential elements of the P***
D. Curriculum articulation	**What are the essential features of the IB programme continuum and what features of the PYP conform to or differ from the other two IB programmes?** • the key areas of commonality and difference between the Primary Years, Middle Years and Diploma Programmes.	***How will participants demonst*** ***and critique the key areas of c*** ***the three IBO programmes****?*

Area of inquiry 2 : Teaching and learning

The teacher award scheme aims to acknowledge the professional craft and expertise of the IBO educator. While knowledge of curriculum processes is essential, the capacity to interpret this by adopting appropriate teaching strategies and techniques is instrumental in ensuring that programme learning outcomes are achieved. The practitioner award focuses primarily on developing understanding of the relationship between teaching and learning, and the various teaching strategies that can be demonstrated to be effective in implementing PYP practice.

Domain	***PYP Programme targeted understandings***	**Essential questions**
	Award holders will have the opportunity to consider:	
E. Learning theories, strategies and styles	**What is constructivist learning and how is this exemplified in PYP practice?** • the centrality of structured, purposeful inquiry and the engagement of students actively in their own learning. • the role of the planner in supporting the planning and development of authentic PYP transdisciplinary learning. • the value and role of collaboration and reflection in the development of authentic PYP transdisciplinary learning. • criteria for the planning and evaluation of the effectiveness of authentic PYP transdisciplinary learning.	How will participants demonstr appropriate planning, developm that support the achievement of
F. Teaching methodologies and the support of learning	**What learning activities and teaching strategies support PYP learning outcomes?** • the centrality of using a range and balance of teaching strategies that incorporate student inquiry as an integral part of the learning process and demonstrate appropriate teaching strategies to develop meaningful and relevant inquiry.	
G. Differentiated teaching strategies	***How does the PYP enable the learning needs of all students to be supported?*** • an appreciation of how differing teaching strategies impact and address the needs of students: o with different levels of competency, types of ability, learning styles and learning difficulties o for whom the language of instruction is not the mother tongue.	How will participants demonstr learning activities and teaching achievement of PYP learning o How will participants demonstr teaching and learning activities students?

H. Selection and evaluation of teaching and learning materials	***What learning resources support PYP practice and how are they selected?*** • criteria for the selection and evaluation of appropriate teaching and learning resources to: o support the achievement of PYP learning outcomes o represent multiple perspectives and diverse cultures that exist in school and global communities o meet the needs of students operating in languages other than their own o meet the needs of students with special learning needs.	How will participants demonstr use a range of appropriate **teach** **that support the achievement**

Area of inquiry 3: Assessment and learning

The teacher award scheme acknowledges that assessment of student understanding and performance is central to the learning process. Considerable emphasis is placed on participants being able to demonstrate knowledge and understanding of assessment practices both in terms of formative and summative processes. The need for assessment to be an integral part of the curriculum and continual part of the learning process is essential if learning and understanding is to be effectively supported. The award scheme aims to recognize teachers who acknowledge the importance of incorporating both approaches in their daily practice and demonstrate how effective assessment tasks and instruments can be developed to assess the learning that has taken place. The practitioner award is concerned with developing understanding of the assessment practices required and recommended by the relevant IB programme.

Domain	**PYP Programme targeted understandings**	**Essential questions**
	Award holders will have the opportunity to consider:	
I. The principles of assessment	***What is the role of assessment in PYP practice?*** • the purpose of assessment and its relationship and implications for planning, teaching and learning. • the role of formative and summative assessment in the learning process.	***How will participants demonst purpose that assessment plays of PYP learning outcomes?***
J. Developing assessment strategies	**How are assessment strategies designed and implemented to support PYP practice?** • strategies enable effective assessment of broad and specific PYP learning outcomes. • strategies enable evidence from a variety of contexts to be gathered using a range of techniques according to the nature of what is being assessed. • strategies are effectively integrated into teaching and learning. • strategies ensure that the learner profile and each of the five essential elements are effectively addressed. • strategies incorporate assessment data into the planning and modification of future learning activities. • strategies that support individual student and shared student reflection as part of the assessment process.	***How will participants demonst and implement assessment stra achievement of PYP learning o***

K. Designing assessment tasks and rubrics	**How are authentic PYP assessment tasks and rubrics designed and applied?** • the development and application of assessment tasks and rubrics and their relationship to PYP learning outcomes.	***How will participants demonst assessment tasks and associate achievement of PYP learning o***
L. Differentiation of assessment	**How does PYP assessment practice acknowledge the learning needs of all students?** • the development of assessment strategies, tasks and rubrics that acknowledge the learning needs of students with different levels of competency, types of ability, learning styles and learning difficulty. • the development of assessment strategies, tasks and rubrics acknowledge the learning needs of students for whom the language of instruction is not the mother tongue.	***How will participants demonst differentiate assessment strateg enable the needs of all PYP stu***
M. Effective feedback	**How is student-learning progress effectively communicated to students and parents?** • the design and implementation of alternative procedures for: o recording authentic student achievement o providing feedback to students and parents about learning progress and outcomes.	***How will participants demonst effective strategies for providin parents regarding the achieven outcomes***

Area of inquiry 4: Professional learning

A central tenet of teacher professionalism is the need to engage in critical self-reflection and improvement. Reflection is an essential part in the process of reviewing and consequently amending practice, itself a requisite in the ever-changing context of IB teaching and learning. In the area of international education where affecting attitudinal and behavioral change is valued as highly as developing knowledge and skills, the need to review practice and to evaluate its success in achieving appropriate student learning outcomes is particularly salient. Teachers reflecting, individually and collaboratively, not only model good learning strategies to their students but also enhance their own understanding of the practices of the IB programmes and their role in promoting international education. It is through the process of self and collegial reflection that teachers are able to develop and articulate a personal, independent and critical stance in relation to contrasting perspectives on issues, policies and developments in the IB programmes and thus able to contribute to a lasting impact on learning.

At Practitioner level participants should demonstrate a commitment to review their practice and identify where improvements can be made. In addition the award recognizes the capacity and commitment of participants to engage in collaborative learning and collegial activity in support of the aims and objectives of the IB programmes. Such collaborative engagement can also present many opportunities and possibilities for professional learning with fellow international educators within their schools and throughout the world. Such professional engagement can enable teachers to develop their own understanding, contribute to the learning of others and participate as active members of a global community of professional learners, in the development and understanding of IB standards and practice.

Domain	**PYP Programme targeted understandings**	**Essential questions**
N. The principles and processes of reflective practice	**Award holders will have the opportunity to consider**: **What is reflective practice and how it supports programme implementation and enhance PYP practice?** • the process of reflective practice and its role in improving teaching and learning in the PYP context. • current standards and practices pertaining to the implementation of PYP programme. • current innovations and ideas in the area of international education and other educational contexts and how these can apply to enhancing the implementation of the PYP. • PYP authorization and evaluation processes. • PYP curriculum review process.	***How will participants de undertake critical evaluatio assessment activities, a assess their impact on st necessary revise PYP pract***

O. Collaborative working: planning, implementation and evaluation	**What is the role of collaborative working practice in supporting the PYP learning outcomes?** • the PYP programme requirements regarding the desirability of effective collaborative planning, instructional design and evaluation in that they: o address assessment issues throughout the planning process o address all of the essential elements (concepts, skills, knowledge, attitudes and action) o emphasize the connections between transdisciplinary and subject disciplinary teaching and learning o recognize a variety of levels of language competency o accommodate a range of individual learning needs and styles o make effective use of the PYP planner in designing authentic PYP learning activities o include provision for easy access to completed planners o involve single-subject teachers in the planning process, to improve the transdisciplinary nature of the units of inquiry and to ensure that the pedagogy of the PYP is pervasive throughout the entire programme. !	How will participants demonstr in and undertake critical evalua practices intended to promote P
P. The use of ICT to support the building of communities of practice	**How does the online curriculum centre and other similar information and communication technologies enable PYP practitioners to professionally engage with each other?** • the use of information and communication technologies in building and contributing to communities of PYP practice. • the role and function of the online curriculum centre in supporting PYP practice. • opportunities for engaging in development, implementation and evaluation of learning activities and resources with	***How will participants demonst in and evaluate the use of info technologies to engage within***

	schools and educators across regional and national boundaries.	***further develop PYP learning c***

CHED Statement of Expectations

The College of Education and Human Development expects that all students abide by the following:

•Students are expected to exhibit professional behavior and dispositions (see http://www.gse.gmu.edu for a listing of dispositions).
•Students must follow the guidelines of the University Honor Code (see http://www.gmu.edu/catalog/apolicies/#TOC_H12 for the full honor code).
•Students must agree to abide by the university policy for Responsible Use of Computing (see http://mail.gmu.edu).
•Students with disabilities who seek accommodations in a course must be registered with the GMU Disability Center (DRC) and inform the instructor, in writing, at the beginning of the semester (see www.gmu.edu/student/drc or call 703.993.2474 to access the DRC).

Course Withdrawal with Dean Approval

For graduate and nondegree students, withdrawal after the last day for dropping a course requires approval by the student's academic dean, and is permitted only for nonacademic reasons that prevent course completion. (Mason catalog).

Incomplete (IN)

This grade may be given to students who are passing a course but who may be unable to complete scheduled course work for a cause beyond reasonable control. The student must then complete all the requirements by the end of the ninth week of the next semester, not including summer term, and the instructor must turn in the final grade by the end of the 10th week. Unless an explicit written extension is filed with the Registrar's Office by the faculty deadline, the grade of IN is changed by the registrar to an F. (Mason catalog);
Faculty may grant an incomplete with a contract developed by the student with a reasonable time to complete the course at the discretion of the faculty member. The faculty member does not need to allow up to the following semester for the student to complete the course. A copy of the contract should be possessed to the FAST TRAIN office.