



RHODE ISLAND COLLEGE

FEINSTEIN SCHOOL OF EDUCATION AND HUMAN DEVELOPMENT

ELED 537 SCIENCE – MAT PRACTICUM (3), SPRING 2010

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Department: ELEMENTARY EDUCATION – DR. PAT CORDEIRO, CHAIR

1. COURSE INFORMATION

Foundation is provided in research and theory as applied to science and associated teaching methods. Emphasis is on application and authentic assessment in practicum settings with diverse populations.

<i>Learning Objective</i>	<i>STANDARDS</i>	<i>How is it assessed?</i>
Candidates know, understand, and use some of the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students' development, acquisition of knowledge, and motivation.	ACEI 1 Development, learning, and motivation	Practicum, Essay Exam, Philosophy of Teaching and Learning
Candidates know, understand, and use some of the fundamental concepts in the subject matter of science—including physical, life, and earth and space sciences—as well as concepts in science and technology, science in personal and social perspectives, the history and nature of science, the unifying concepts of science, and the inquiry processes scientists use in discovery of new knowledge to build a base for scientific and technological literacy.	ACEI 2.2 Curriculum - Science	Course Assessments: Practicum, Essay Exam
Candidates know, understand, and use the connections among concepts, procedures, and applications from given content areas to motivate elementary students, build understanding, and encourage the application of knowledge, skills, and ideas to real world issues.	ACEI 2.8. Connections across the curriculum	Practicum, Exam
Candidates plan and implement instruction based on knowledge of students, learning theory, subject matter, curricular goals, and community.	ACEI 3.1. Instruction-Integrating and applying knowledge for instruction	Practicum, Exam
Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students.	ACEI 3.2. Instruction-Adaptation to diverse students	Practicum, Exam, Philosophy of Teaching and Learning
Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self motivation, and positive social interaction and to create supportive learning environments.	ACEI 3.4. Instruction-Active engagement in learning	Practicum
Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self motivation, and positive social interaction and to create supportive learning environments.	ACEI 3.4. Instruction-Active engagement in learning	Practicum

Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom.	ACEI 3.5. Instruction-Communication to foster collaboration	Practicum
Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.	ACEI 4. Assessment for instruction	Practicum, Science Content Exam, RIPTS 9 Artifact
Candidates understand and apply practices and behaviors that are characteristic of developing career teachers.	ACEI 5.1. Professionalism - Practices and behaviors of developing career teachers	Practicum
Candidates are aware of and reflect on their practice in light of research on teaching and resources available for learning; they continually evaluate the effects of their decisions and actions on students, parents, and other colleagues in the learning community and actively seek out opportunities to grow as a teacher.	ACEI 5.2. Professionalism-Reflection and evaluation	Practicum, RIPTS 9 Artifact, Professional Behaviors

2. COURSE TEXTS AND MATERIALS

Bass, J. E., Contant, T. L. & Carin, A. A. (2009). *Methods for Teaching Science as Inquiry*. Upper Saddle River, NJ: Pearson Education.

Chalk and Wire subscription (available at Campus Store).

3. COURSE CALENDAR

DATE	TOPIC ACTIVITY	TEXT READING Bb	ASSIGNMENTS DUE
# 1 M 1/25	<u>Topic</u> Who are we, where we're going, how, and why --Course Outcomes --Schedule --Course requirements --Prior experiences, beliefs and attitudes affecting our view towards teaching/learning of science, curriculum and instructional materials <u>Activity</u> -Assign Tablet PCs -Present information about course and different types of Pre-Assessment		
# 2 Th 1/28	<u>Topic</u> -National Science Education Standards -Reasons for Teaching Science	Bass et. al., Chapter 1 <i>Children, Science, and Inquiry</i> NSES An Overview	Questionnaire

	<p>-Science Planning</p> <p><u>Activity</u></p> <ul style="list-style-type: none"> - Clickers Pre-Assessment - Assign teams and explain tasks for team meetings. Arrange place to meet for team meeting. <p>-Explain Letter of Introduction</p>		
# 3 M 2/1	<p><u>Topic</u></p> <p>--Unit Design, Sample of Science Planning and Template.</p> <p><u>Activity</u></p> <ul style="list-style-type: none"> -- Schedule Team Planning Times. --Assign tasks for writing science plan. 		Letter of Introduction to Instructors
# 4 Th 2/4	<p>PRACTICUM - Videoconference with Washington Oak School</p> <p>Prepare for Classroom Observation</p>	<p>Go to http://www.ric.edu/faculty/mkniseley/ScienceEducation/resources.html</p> <ul style="list-style-type: none"> -Click on <i>Instructional Materials</i> on left column. Click on <i>Instructional Materials in Rhode Island</i>. Browse the titles science kits and other related resources used by Rhode Island teachers. -Click on <i>Published Curriculum</i> on left column. Browse different links. <p>Make copies of teacher guide materials. View on line teacher preparation videos for your assigned science module: http://lhsfoss.org/fossweb/schools/teachervideos/index.html</p> <p>Bass et. al., Chapter 2 <i>Processes and Strategies for Inquiring</i></p>	
# 5 M 2/8	<p><u>Topic</u></p> <ul style="list-style-type: none"> -Different types of investigations -Investigating using a scientist notebook -Science Instructional Materials 	<p>Bass et. al., Chapter 3 <i>Learning Science with Understanding</i></p>	.

	<p>in Rhode Island. -Community Resources</p> <p><u>Activity</u> -Hands on Activity Using Scientist Notebook</p>		
# 6 Th 2/11	<p>PRACTICUM - Classroom Observation at Washington Oak School</p>	<p>Bass et. al, Chapter 4 <i>Teaching Science for Understanding. The 5E Model of Instruction</i></p> <p>Bb Scientist Notebooks: <i>Science Notebook Essentials (PDF)</i>. Read article.</p> <p>Bb Scientist Notebook Toolkit (URL). Browse resource</p>	Team Letter to Families
# 7 M 2/15	<p>RIPTS 9 Methods of Pre-Assessing Student Learning -using scientist notebook (predicting, next step/new questions) -different types of pre (diagnostic) assessments -linking pre- and post- assessments -external and source sources -making rubrics</p>	<p>Bass et. al., Chapter 6 <i>Assessing Science Learning</i></p> <p><u>NSES Assessment Standards</u></p>	
# 8 Th 2/18	<p>RIPTS 9 Continued</p> <p>Methods of Learner Self- Assessment -using scientist notebook (linking conclusion with prediction) -rating scales and open-ended questions - KWAL</p> <p>Assessing to provide -“SMART” feedback</p> <p>Methods of Reporting and Recording -Devising and using rubrics -Analytic vs. holistic rubrics -Using teacher checklists -Maintaining informal</p>	<p>Bass et. al, Chapter 5 <i>Planning and Managing Inquiry Instruction</i></p>	Science Unit Plan

	<p>anecdotal notes -Grading subject of science on school report cards</p> <p>Planning Systematically – Visual Organizer</p> <p><u>Activity</u> Analyze plan for pre-assessments</p>		
# 9 M 2/22	<p>Science Content Exam</p> <p>Team Conferences – Prepare for Pre-Assessment Lesson</p>		Pre-assessment lesson planning materials
# 10 Th 2/25	PRACTICUM Pre-Assessment		Science Class 1 lesson planning materials
# 11 M 3/1	PRACTICUM Science Class 1		<p>Science Class 2 lesson planning materials</p> <p>Reflection 1</p>
# 12 Th 3/4		Bass et. al., Chapter 7 <i>Effective Questioning</i>	Science Class 2 lesson planning materials
# 13 M 3/8	PRACTICUM Science Class 2		<p>Scientist Notebook Feedback</p> <p>Science Class 3 lesson planning materials</p>
# 14 Th 3/11	PRACTICUM Science Class 3		Science Class 4 lesson planning materials
# 15 M 3/22	PRACTICUM Science Class 4		Scientist Notebook Feedback

<p># 16 Th 3/25</p>	<p><u>Topic</u> Interpret and reflect on the results of pre-assessment.</p> <p>Review results of exam and debrief Practicum - and Teaching Science as Inquiry. Bring your textbook</p> <p>Discussion questions include:</p> <p>--What is inquiry? What is inquiry teaching? What is inquiry learning?</p> <p>--How has your understanding of inquiry changed?</p> <p>--How has your understanding of managing a science classroom changed?</p> <p>--How has your understanding of science instructional materials changed?</p>	<p>Bass et. al., Chapter 10 <i>Science for All Learners</i></p>	<p>-Bring textbook -Bring student response sheets/results of pre-assessment to class. -Quantify the results of pre-assessment. --Chart/graph results of pre-assessment.</p> <p>Science Class 5 lesson planning materials</p>
<p># 17 M 3/29</p>	<p>PRACTICUM Science Class 5</p>		<p>RIPTS 9 Artifact: --Submit Part 1 and Part 2 for scoring: Send file to instructor using Bb Mail.</p> <p>--Science Class 6 lesson planning materials</p>
<p># 18 Th 4/1</p>	<p>PRACTICUM Cancelled Due to Flooding</p>		<p>--Post Assessment planning materials --Reflection 2</p>
<p># 19 M 4/5</p>	<p>PRACTICUM Science Class 6</p>		
<p># 20 Th 4/8</p>	<p>PRACTICUM Post-Assessment</p>		
<p># 21 M 4/12</p>	<p>Chalk and Wire Workshop <u>Activity</u>: Begin developing your electronic hiring portfolio</p>		<p>-Bring laptops if you own one and registration card. Tablet PC laptops will be available in class.</p>
<p># 22 Th 4/15</p>	<p><u>Topic</u> RIPTS 9 Artifact Part III – Interpreting Data; developing a</p>	<p>Bass et. al., Chapter 6 <i>Assessing Science Learning</i></p>	<p>Bring student scientist notebooks to class.</p>

	<p>rubric for a scientist notebook - making judgments about students' scientific knowledge, thinking, and dispositions</p> <p>Focus on Hiring Portfolio: - Resume</p>	NSES Assessment Standards	
# 23 M 4/19	<p><u>Topic</u> Diverse Learners in an Inclusive Classroom—Accommodations, Modifications, and Strategies</p> <p>Focus on Hiring Portfolio: - Philosophy of Teaching Science</p> <p>Explain Book Share Assignment</p>	Bass et. al., Chapter 10 <i>Science for All Learners</i>	
# 24 Th 4/22	<p><u>Topic</u> Connecting Science with Reading</p> <p>Activity: Book Share</p> <p>Focus on Hiring Portfolio: - Plan for a Well-Managed Classroom -Reflective Paragraphs</p> <p><u>Activity:</u> -Book Share – science trade books -Explore a reading lesson from FOSS Science Stories</p>	Bass et. al, Chapter 9 <i>Connecting Science with Other Subjects</i>	Bring two “high quality” trade books to class representing nonfiction and one other genre <u>related to the topic you’re teaching</u> . Be prepared to talk about your reasons for selecting it as a high quality book, how you selected the book, and to read a brief excerpt to others.
#25 M 4/26	<p><u>Topic</u> Integrating Technology while Teaching Science</p> <p><u>Activity:</u> Online exploration of different types of technology</p>	Bass et. al, Chapter 8 <i>Technology Tools and Resources for Inquiry Science</i>	Bring your laptop and ear buds to listen to audio on your laptop. Tablet PC laptops will be available in class.
# 26 Th 4/29	<p>Prepare and Rehearse Responses - Interview with Hiring Portfolio</p> <p>Dispositions Course Requirement Course Evaluations</p>		Bring your “draft” e-portfolio to class. Due: RIPTS 9 Artifact -- Upload single Word file in Bb Assignments RIPTS 9 Artifact. Include all Parts with

			charts, graphs, and samples of student work.
#27 M 5/3	Individual Interview with Hiring Portfolio		Due: Bb Hiring Portfolio. Insert url in Bb assignment. Bring copy of hiring portfolio on usb drive or cd to interview.
#28 Th 5/6	Individual Interview with Hiring Portfolio		Dispositions.-Bb Assignments DISPOSITIONS
Th 5/14			Re-submission of RIPTS 9 Artifact Due

4. REQUIREMENTS

COURSE REQUIREMENT	CONCEPTUAL FRAMEWORK	RIPTS	ACEI STANDARDS	COURSE OUTCOMES
Practicum (30%)	PAR, Knowledge, Diversity, Pedagogy	1-11	Development, Learning, Motivation Curriculum Instruction Assessment Professionalism	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
RIPTS 9 Artifact (30%)	PAR, Knowledge, Diversity, Pedagogy	9, 10	Assessment	9, 11
Interview (5%) and Hiring Portfolio (15%)	PAR, Knowledge, Diversity, Pedagogy, Professionalism	1-11	Development, Learning, Motivation Curriculum Instruction Assessment Professionalism	1, 2, 3, 5, 6, 10, 11
Science Content Exam (10%)	Knowledge, Pedagogy	1-2	Curriculum	2, 3
Professional Behaviors (10%)	Professionalism	10	Professionalism	11

Science Content Exam (10 %)

Type of assessment: A combination of selected response (multiple choice) and academic prompt (brief constructed response).

Purpose: The purpose is to diagnose your understanding of the subject matter needed for effective teaching of the unit you are assigned to teach.

What will be assessed? Science knowledge

How will evidence be collected? Paper and pencil exam

Time required: 60 minutes

Criteria for evaluating: Understanding of science knowledge

How grade is determined: Scoring guide will be provided.

Exam Date: 2/22

Practicum (30%)

Purpose: To plan, teach, and reflect upon classroom teaching of science; to relate theory to practice; and to receive feedback from instructors and peers

Task: Due Dates are in Course Schedule

Participate in eight classes that include a classroom observation, pre-assessment, six science kit classes, and summative assessment.

- Plan and reflect as a team with clinical instructor during the practicum component. Attend weekly conferences.
- Inventory and prepare materials for science kit classes and assessments. Develop subject matter knowledge related to science kit.
- Observe clinical instructor teach a hands on science lesson. Interview instructor about learners, their families and community, and science curriculum.
- Submit a one-page letter of introduction to your assigned clinical instructor.
- As a team, submit science unit plan to clinical instructor and post in assigned Discussion area.
- As a team, devise a one-page business letter to the families of the students you are teaching which introduces them to the unit of instruction and approach to learning.
- Share load of planning, preparing materials, and lead teaching. Take turns lead teaching. Lead teachers will open and close the class, conduct whole class discussions, use direct instruction to teach procedures and handle transitions. If not –lead teaching, other team members observe, facilitate hands on, small group learning components and assess science learning of assigned students.
- Individually, write two reflections using suggested reflection form posted on Bb Practicum. Submit reflections in Bb Reflection Assignment and email to clinical instructor.
- Identify a subgroup of learners to analyze assessment data and compare performance with other students.
- Provide feedback to children in scientist notebooks at least two times.
- Meet as a team with course instructor in a conference to reflect on inquiry teaching and learning.

How Grade is Determined: Scoring on criteria list. Clinical instructor will score the criteria provide written feedback two times. The course instructor will contribute feedback and assist in assigning grade with clinical instructor.

RIPTS 9 Artifact (30%)

Purpose: To understand the role of assessment in teaching and learning science; to prepare a component of the –Preparing to Student Teach” portfolio.

Task: Complete the task related to [Rhode Island Professional Teaching Standards Standard 9.](#)

Product: Microsoft Office Word file

Criteria for Evaluating: See file in Bb Assignments RIPTS 9 Artifact.

How Grade is Determined: Scoring on analytic rubric.

Due Dates:

- Part 1 and Part 2 **Due 3/29.** Send as a single word file to instructor using Bb Mail.
- All Parts, charts, graphs, samples of student work. **Due 4/29.**

Submit as a single Word file through Bb Assignments (RIPTS 9 Artifact). Upload as a Microsoft Office Word file. (Re-submission for Acceptable rating **due 5/14**)

Interview (5%) and C&W e-Portfolio (15%)

Purpose: According to a recent survey of principals who hire new teachers, two most important selection factors are written and oral communication skills. The mock job interview provides you an opportunity to test your oral communication skills and use a hiring portfolio to illustrate points you would like to make while responding to questions. This course requirement will cause you to reflect on what you have learned and improve your oral and written communication skills.

Task: Compose an electronic hiring portfolio that you can use during a 15-minute oral interview. The components serve as evidence during a job interview. There is no standard design for a hiring portfolio. The portfolio can contain but not limited to

- Brief reflective paragraph preceding evidence in several sections.(*)
- A cover, table of contents with hyperlinks to different components (*)
- a 1-2 page resume used for applying for a teaching position (*)
- brief video clip of (science) teaching and reflecting
- a philosophy statement about teaching of science (*) PowerPoint slide show or photo essay 500 word statement about *Who are you as a teacher of science? What do you value or believe? Why do you want to teach science* Relate your thinking to PAR and four themes of FSEHD Conceptual Framework.
- photographs of you and your students in the (science) classroom or on a field trip (*)
- a plan for a well-managed science classroom (*)
- several different samples of student work in science (*)
- a science unit plan, two implemented science lesson plans, and types of science assessments with rubrics (*)
- a summary of results of an evaluation of your teaching by your students and/or supervisors (*)
- photographs of bulletin boards
- a sample of a brochure that you could use with families during an open house or “curriculum night”
- a description of training or unique experience that has strengthened your teaching ability.

For this assignment, items with an asterisk are required (*)

Submit file in Bb Assignments.

Product and Performance:

Product: Hiring Portfolio Microsoft Word file; Performance: Mock Job Interview

Criteria for Evaluating: See file in Bb Assignments Interview and Hiring Portfolio

How Grade is Determined: Scoring on analytic rubric.

Hiring Portfolio. Submit in Bb Assignments: Due 5/2

Interview with Hiring Portfolio Scheduled for 5/2 and 5/5

Professional Behaviors (10 %):

Purpose: To demonstrate dispositions related to teaching and learning that includes attending and active participation; to self-assess professional behaviors during the course.

Task: Download Word file at Bb Assignments-Dispositions. Complete the form. Upload file at Bb Assignments - Professional Behaviors.

Product: Self-assessment. Download assignment file in Bb Assignments - Professional Behaviors.

Criteria for Evaluating: List of Professional Behaviors in Bb Assignments - Professional Behaviors; attendance; and participation.

How Grade is Determined: Identification of dispositions (strengths and goals for future learning); record of attendance

Due Date: 5/6

COURSE EVALUATION

Grading System: You will earn a number grade for each course requirement based on a 4.0 grading scale.

A = 4.00 (3.85-4.17); A- =3.67 (3.51-3.84); B+ =3.33 (3.18-3.50); B= 3.00 (2.85-3.17); B- = 2.67 (2.51-2.84); C+ =2.33(2.18-2.50); C= 2.00 (1.85-2.17); C- = 1.67 (1.51-1.84); D+ =1.33 (1.18-1.50); D= 1.00 (1.17-0.85); D- = 0.67 (0.51-0.84); F = 0.00

Grade Definitions:

- A Achieves standards *above the expected level of proficiency*. Carefully completes all assignments above the expected level of proficiency. Reads and thoughtfully reacts to assigned readings. Actively participates in class discussions and practicum experiences. Demonstrates excellence in planning; implementing effective lessons; interacting with students; reflecting upon teaching/learning; a command of methods, materials, and theory; a creative flair--solves problems; and a strong commitment to education. Takes initiative, sets personal learning goals, and takes action for developing understanding and abilities. The student is expected to be outstanding during student teaching.
- B Achieves the standards. Completes all assignments at the expected level of proficiency. Reads and reacts to assigned readings. Participates in class discussions and practicum experiences. Demonstrates competence in planning; implementing effective lessons; interacting with students; reflecting upon teaching/learning; understanding methods, materials, and theory; a commitment to education.
- C+ Achieves the standards in most areas. Completes all assignments at the expected level of proficiency. Reads and reacts to assigned readings. Participates in class discussions and practicum experiences. Conducts peer observations. Demonstrates competence (necessary for elementary science teaching) in most areas. The student will probably need special attention during student teaching to ensure success and certification.
- C Does not achieve the standards. The student does not demonstrate the competencies necessary for elementary science teaching. The student does not complete all assignments and will not be allowed to student teach.
- D, F Unsatisfactory--Failure. Complete failure early in the term will signal a grade of D or F. The student will be counseled to drop the class.

0 = UNACCEPTABLE: No evidence whatsoever of accomplishing the criteria or task/product

5. RIC POLICIES

- Academic Dishonesty Policy (*Rhode Island College Handbook of Policies, Practices, and Regulations* (Spring 2010), Chapter 3: Academic policies and procedures. Pp. 32-34, section 3.9.1.): http://www.ric.edu/administration/pdf/College_handbook_Chapter_3.pdf#28
- Request for Reasonable Accommodations for Students with Disabilities: <http://www.ric.edu/disabilityservices/faq.php>
- The instructor reserves the right to change the syllabus at any point in the semester to accommodate learners' needs and pace of progress. Students will be notified in class of any changes.
- Students' assignments may be duplicated and utilized anonymously for the Department's program folios, for purposes of accreditation. All information that identifies a document as belonging to a particular student will be removed before it is used.