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Curriculum Proposal Cover Sheet	t - University	-Wide Under	graduate Cu	rriculun	1 Committee
Contact Person			Email Ad	ldress	
Meghan Twiest			mmtwie		edu
Proposing Department/Unit			Phone		
Professional Studies in Education			724-357	7-2404	
Check all appropriate lines and complete proposal and for each program proposal.	information a	is requested. I	Jse a separate	cover sh	neet for each course
Course Proposals (check all that apply) New Course	Course Prefix C	hange		_Course D	Palation
XCourse RevisionX_C	Course Number	and/or(Title Ch	ange V		
ECED 310 Science and Health in the Literacy	Rasad Forly			_Catalog	Description Change
Childhood Curriculum	Based Early	ECED 210 G			
		Learners	ience, Health, ar	id Safety for	or all PreK to Grade 4
Current Course prefix, number and full title			prefix, number ar	nd full title,	if changing
Additional Course Designations: check if This course is also proposed as a Lib This course is also proposed as an H	aral Chidi- a			g., Womer	n's Studies,
3. Program Proposals	Catalog De	scription Chang	ge .	Progra	m Revision
New Degree Program	Program Ti	tla Chanca			an Revision
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Current program name		12			
4. Approvals	!	Proposed program	n name, if changin	g	
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Additional signatures as appropriate:					
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JUN 1 1 2009

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II. Description of Change

1. New Syllabus of Record

ECED 310

SCIENCE, HEALTH AND SAFETY FOR ALL PREK GRADE 4 LEARNERS 3cr-0-3cr
Prerequisite: ECED/EDEX major, Admission to Teacher Education Step 1

I. CATALOG DESCRIPTION:

Examine strategies for teaching science and health concepts, design lessons that integrate science, health, and safety; and learn how to become role models for children. Students will develop knowledge of how to design lessons with appropriate content and methods for young children.

II. COURSE OUTCOMES:

- 1: All students will be able to apply their knowledge of established local, Pennsylvania and national standards and incorporate those standards into their planning and teaching of earth and space sciences, life sciences, physical sciences, ecology, health and safety (PDE Standard D.1,b,f, 2,3,4,5 and 6).
- 2: All students will teach a series of innovative, activity-oriented lessons that integrate science, health, and safety with other subjects, using the science process skills and a variety of instructional techniques and curricular materials including lab use, and computer technology for the designated grade level while adapting instructional goals to the knowledge and skills of the learner. (PDE Standard D.1c, m, r, u, D.7, a,b)
- 3: Participants will be able to work cooperatively with young students and teachers in a school setting and will adapt instruction to the existing knowledge and conceptual development while fostering the students' natural curiosity regarding science, health, and safety. (PDE Standard D.1 k, l)
- 4: All students will test ideas through experimentation and use and interpret scientific explanations while thinking about science as more than truths to be memorized. (PDE Standard D.1, e, n, o, p, q, s, t, u, v, w, y, z, ee)
- 5: All students will teach science as a process of inquiry so that all students at all grade levels think critically, explore various investigative strategies and defend results of a scientific investigation so they can function productively as problem solvers (PDE Standard D.1a,e, g, h, i,o,p,7, a,b,d,f,g,h, v, bb)
- 6: All students will be able to evaluate the relative merits of teaching strategies and methodologies in health and safety by examining unifying themes incorporated into the content, and by implementing pedagogy for concepts that students find most difficult. (PDE Standard D.1, q, h, i, k, t)

and identify common misconceptions, student reasoning patterns and problematic explanation for observed phenomena (PDE Standard D.1 c, j, w,x, cc, dd and y).

- 8: All students will understand the nature and development of scientific knowledge by recognizing the contributions individual scientists have made and design methods of sharing this information to capitalize on the human aspects of science. (PDE Standard D.1, n, gg,C.7, c, e)
- 9: All students will implement research-based instruction to develop professional knowledge by using current research in science and science education journals to expand their knowledge and understanding of teaching and learning science. (PDE Standard C.1, l)
- 10: All students will assess students' knowledge in science, health, and safety in multiple ways and be actively involved in the learning process and will periodically reflect on their own learning and teaching; (PDE Standard Dl, .7 c, j, s)

Student Outcomes Matrix

Objective	NAEYC/CEC Blended Program Standard	PDE	Assessment
1	NAEYC 4, CEC 2	D.1.b,f, 2,3,4,5 & 6	Key assessment: Science/Health/Safety Unit
2	NAEYC 4, CEC 2	D.1c, m, r, u, D.7, a,	Science/Health/Safety Unit; Presentation
3	NAEYC 4, CEC 2, 4	D.1 k, l	Science/Health/SafetyUnit; Presentation
4		D.1, e, n, o, p, q, s, t, u, v, w,y, z, ee	Presentation
5	NAEYC 4, CEC 2,4,7	D.1a,e, g, h, i,o,p	Class Enrichment Project
6		D.1, q, h, i, k, t	Midterm and Final Exams
7		D.1 c, j, w,x, cc, dd and	Midterm and Final Exams
8		D.1, n, gg,C.7, c, e	Science/Health /SafetyUnit; Presentation
9		C.1, 1	Article Summaries
10	NAEYC 3, CEC 8	Dl, .7 c, j, s	Student Growth Assessment

III. DETAILED COURSE OUTLINE

Week	Topic	Daily Assignment
1	Introductions and Course	
	Overview	
	Shaping the minds of young	Identify your goals to
	children by using the process	becoming a healthy role
	skills; Observation	model for children
2	Methods for teaching science,	
	health and safety; Classification;	
	SKIN Prints	
	Science Education Reform;	
	Standards; DINOSAURS;	
	Communication	
3	Curricula for teaching science and	Article from Science and
	health; FOSS, DMS, STC;	Children Due
	Measurement	
	WEATHER; GROUNDHOGS	
	making experiences of young	
	children meaningful and relevant	
4	Resources for teaching health and	
	science; FLP, AIMS, GEMS, HAP	
	ELECTRICITY; Prediction and	
	Inference	
5	CHOCOLATE; Creating an	Article from Discover journal
	Integrated Theme	Due
	THE AND A DOT A	
6	The HEART, Assessment	
	measures for the affective,	
	psychomotor and cognitive	
7	domains	
'	The connection between	
	ANIMALS and Children during	
8	the Early childhood years	D: : : : : : : : : : : : : : : : : : :
•	Planning your unit	Bring in a rough draft of a
		lesson you have developed
		with the topic you will be
9	Llow shildren view scientists	teaching
	How children view scientists; Gender issues in the early	
	childhood classroom	
10	MIDTERM EXAM	
11	GERMS and Healthy Habits for	Indoor Safety Assessment
	Young Children	indoor Salety Assessment
	Indoor safety consideration	
12	KIDS AND NATURE; Field trip	Be prepared to go outside
2/17/2009	The state of the s	20 propertu to go outside

Activities and Environmental Resources and Programs that promote health and care for the environment Outdoor safety considerations Lesson Presentations UNITS DUI support yo copies of your group Lesson Presentations Be prepared peers. lesson plan wher	d run around
support you copies of your group 14 Lesson Presentations Be prepared peers. lesson plan when	safety assessment role model reports DUE
peers. lesson plan wher	UE; Be prepared to your peers. Bring of lesson plans for up when you teach
EXAM Final Assessment Units wi	red to support your Bring copies of ans for your group en you teach
	will be returned

IV. EVALUATION METHODS

Portfolio Assignment: The Science/Health Unit: One of the major assignments in this course is the unit plan. Students will construct a science, health, or safety unit. This unit must include a minimum of five instructional lessons and follow the approved departmental format. It is expected the unit will reflect ample research in development and should include a minimum of 10 electronic resources, 10 factual adult resources, and five teacher resources. At least 10 pieces of children's literature that are appropriate to the assigned grade level should be included in the reference section of the unit so that these books can be used to supplement instruction. Adaptations for special needs student should be given for each lesson. Your unit must reference information about an actual scientist. The unit will become part of your electronic portfolio; therefore you want to develop a unique unit that can later be examined by potential employers. A rubric will be provided.

Lesson Presentation: Students will have the opportunity to teach a lesson to your peers. It is recommended that this lesson be from the unit. You will be responsible for ½ hour of teaching and will teach to approximately ½ of the class. You will provide a lesson plan for all the students in your group on the day you present. Your peers will also be evaluating you on your lesson. A rubric will be provided for your presentation.

Class Enrichment Project: This assignment will give students the opportunity to enhance the day's instruction. Students sill be assigned a topic and a day and will be required to compile a list of children's literature appropriate for the day's topic. Samples of excellent books will be brought in and informally shared with the class. In addition, the student will provide a creative snack for the members of the class on that day. Consideration should be given to the healthiness of the snack. A handout including recipes, names of the books shown in class, with a top five recommendation and summary as well as other valuable information should also be made available to the class. The students will also share ideas on how to integrate other subject areas 2/17/2009

into the topic and are encouraged to dress in a way that highlights their theme. Creativity, preparation, and enthusiasm will be the main criteria for evaluation.

Article Summaries: The purpose of this assignment is for you to become familiar with two journals that will help you in your teaching. Evaluate one article for Science and Children (2006-2008.) This journal is for teachers so pick an article and summarize, it then address how this information could be useful to you in your future teaching. Second, choose an article from Discover and summarize what is in the article. Next, talk about how you would incorporate this information into your teaching. Each should be 2-4 pages and use APA style to reference the article.

Final and Midterm Assessments: These exam will include all notes, readings, handouts, activities and information presented to date in the course..

V. EXAMPLE GRADING SCALE

Item	Total Points	Points Earned	My Score
1. Midterm Exam	100 points		
2 Final Exam	100 points		
3. Science/Health Unit	125 points		
4. Lesson Presentation	50 points		
5. Article Summaries	50 points		
6. Participation	20 points		
7. Class Enrichment Project	50 points		

Grades will be assigned at 10% intervals.

Please keep a written record of the number of points you have earned. Some quick division of the two running totals will give you your grade percentage in class so you will know what your grade is at all times.

VI. ATTENDANCE POLICY

Many of the skills required by the outcomes can only be learned by <u>active</u> participation in class discussions, activities, investigations, and teaching situations. As it is impossible to participate without being present, attendance is mandatory. As future teachers, you need to be responsible for your health, your family situations, your car maintenance and all other circumstances. If you miss a class, get the notes from a class member and copy any handouts or get them from the instructor. Each class tardiness will result in a 1 point deduction from the total participation points available. Written assignments must be turned in at the beginning of class on the day they are due. A 10% penalty will be assigned for every late day, beginning immediately after that class period. A written doctor's excuse or advance notice of a professional commitment must be

provided to make up any assigned work such as a presentation or assignment.

Students with Special Needs: Any student who feels they have a special need or circumstances should meet privately with the professor early in the semester to discuss how instruction might be adapted. Special accommodations must be documented by the University's Advising and Testing Center.

Academic Integrity Policy

This course will follow the letter and the spirit of IUP's Academic Integrity Policy. The complete policy can be found in the undergraduate catalog.

VII. POSSIBLE TEXTS:

- Chaille, C., & Britain, L. (2003). The young child as scientist: A constructivist approach to early childhood education. New York: Merrill.
- Robertson, C. (2010). Safety, nutrition, and health in early education. Belmont, CA: Wadsworth/ Cengage Learning.
- Sayre, N., & Gallagher, J. (2001). The young child and the environment: Issues related to health, nutrition, safety and physical activity. New York: Merrill.

VIII. SPECIAL RESOURCE REQUIREMENTS

None

IX. BIBLIOGRAPHY

An ongoing list of print resources and websites will be provided during instruction.

- Bass, E. J., Carin, A. A. & Contant, L. T. (2005). Activities For Teaching Science As Inquiry-6th Edition. Upper Saddle River: Pearson Education, Inc.
- Bell, L. R. (2008). Teaching the Nature of Science through Process Skills. Boston: Pearson Education, Inc.
- Buxton, A. C. & Provenzo, Jr., F. E. (2007). Teaching science in Elementary & Middle School. Los Angeles: SAGE Publications.
- Currie, R. & Irving, J. (1986). *Mudluscious*. Littleton: Libraries Unlimited, Inc. Education & Environment. (1998). *Water Conservation*. Menlo Park: Dale Seymour Publications.
- Franklin, T., Gerlovich, J., Martin, R. & Sexton, C. (2005). *Teaching Science for All Children-3rd Edition*. Boston: Pearson Education, Inc.

- Hammerman, E. (2006). 8 Essentials of Inquiry-Based Science, K-8. Thousand Oaks: Corwin Press.
- Kahn, Jr., H. P. & Kellert, R. S. (2002). *Children and Nature*. London: Massachusetts Institute of Technology.
- Prairie, P.A. (2005). *Inquiry into Math, Science, and Technology for Teaching Young Children*. New York: Thomson Delmar Learning.
- Robertson, C. (2003). Safety, Nutrition and Health in Early Education- 2nd Editon. New York: Delmar Learning.
- Stille, R. D. (1995). Extraordinary Woman Scientists. Chicago: Children's Press, Inc.
- Vogt, L. G. (1994). Space Based Astronomy. National Aeronautics and Space Administration.

Course Analysis Questionnaire

ECED 310

A. Details of the Course

- A1. This course is designed for all majors in the ECED PreK to Grade 4/Special Education PreK to Grade 8 major.
- **A2**. This course is one of several courses being revised within the Early Childhood education/Special Education program revision and does not affect any courses outside the department. This course is required.
 - A3. This course has not been offered on a trial basis or as a special topic
 - A4. This course is not dual level and will not be offered as such.
 - A5. This course will not be offered for variable credit.
 - A6. Examples of other institutions currently offering a similar course include Bowling Green State University EDTL 324 Science Methods for Early Childhood Ohio University EDEC 340 Teaching Science for Young Children
- A7. The content of this course is required by the competencies set forth by the Pennsylvania Department of Education, and by the National Association for the Education of Young Children.

Section B: Interdisciplinary Implications

- **B1.** This course will be taught by appropriately qualified instructors in the PSE department.
 - **B2**. This course is independent of other departments and is restricted to the major.
 - **B3.** This course will not be cross listed.

Section C: Implementation

- **C1.** Faculty resources are currently adequate to teach this course. This course is part of the redesigned curriculum mandated by the PDE's restructured certification guidelines. The preparation and equated workload for this course assignment is 1:1.
- C2. No other resources are required for this course. Space, equipment, and library materials are currently adequate to teach this course.

- C3. None of the resources for this course are funded by a grant
- C4. This course will be offered both fall and spring semesters to accommodate all majors in the Early Childhood/Special Education major.
- C5. Currently, there are about 125 majors total in Early Childhood Education, Elementary Education, and Special Education. We hope to enroll the same number of students in the proposed program which will replace the aforementioned areas. Therefore, we would plan to offer 4 to 5 sections of this course each year as enrollment data dictate.
- **C6.** Each section of this course will accommodate 20 to 25 students.
- C7. No such recommendations are made.
- C8. This is not a distance education course.

Section D: Miscellaneous

Include any additional information valuable to those reviewing this new course proposal.

No additional information is required

2. Summary of Changes

Old Catalog Description ECED 310 Emphasizes the need for high-quality, meaningful science and health experiences in early childhood, across a developmental curriculum. Teaches how to provide young children with unique opportunities to explore phenomena, use skills of scientific inquiry, cultivate scientific dispositions, and build a foundation for understanding core scientific and health

New Catalog Description ECED 310

Examines strategies for teaching science and health concepts, design lessons that integrate science, health, and safety; and learn how to become role models for children. Students will develop knowledge of how to design lessons with appropriate content and methods for young children.

This course is being revised to reflect an increased focus on the content of Science, Health, and Safety and the shift of the focus on literacy to other courses within the program. The catalog description reflects this shift. The PDE and NAEYC program standards require increased content in the specific areas of Science, Health, and Safety, and the proposed program contains other course (notably ECED 221, ECED 351, ECED 451, and EDEX 425) which focus specifically on the literacy development of the PreK to Grade 4 learner. The objectives, instructional activities, and attached bibliography reflect the proposed revision's intent to more specifically serve program outcomes related to Science, Health, and Safety in this course.

3. Justification/Rationale for Changes

The mandated changes in certification guidelines from the Pennsylvania department of Education require that the ECED/PreK to Grade 6 program be revised to conform with the new PreK to Grade 4 designation. This IUP program proposal also seeks to blend the ECED/EDEX certification preparation so that all candidates are prepared to teach in inclusive settings.

4. Old Syllabus of record

See attached