Ed 228 **SCIENCE FOR THE ELEMENTARY SCHOOLS** **FALL, 2006**

Lecture Syllabus

(subject to revision)

DATE	CLASS	TOPIC	Readings in Science K-8	Readings in TSTC
Aug. 28	1	Introduction	3-17 (skim)	
310	2	Beginnings of Science	(Science Unlimited 1-43)	
Sept 1	3	Emergence of Science	18-46 (skim)	
6	4	Atomic Theory	434-445	43-52
8	5	Atoms and Molecules	445-446	52-58
11	6	Chemical Bonding	446-453	58-68
13	7	Heat and Temperature I	474-483	69-83
15	8	**Demonstration 1**	483-493	
18	9	Heat and Temperature II		83-91
20	10	Static Electricity	524-529	102-112
22	11	Learning Center – Set Up		
25	12	Learning Center -Critique		
27	13	Current Electricity I	529-536	112-128
29	14	**Demonstration 2**		
Oct. 2	15	**Test 1*** (Classes 1-14)		
4	16	Current Electricity II	536-537	
6	17	**Demonstration 3**		
11	18	Current Electricity III	537-545	
13	19	**Demonstration 4**		
16	20	Magnetism I	520-524	92-101
18	21	Magnetism II		
20	22	**Demonstration 5**		
23	23	Waves I	495-504	129-149
25	24	Waves II	506-510	150-169
27	25	**Demonstration 6**		
30	26	Waves III	511-518	169-177
Nov. 1	27	Mechanics I	455-457	178-186
3	28	**Demonstration 7**		
6	29	**Test 2** * (classes 16-28)		
8	30	Mechanics II	457-466	186-193
10	31	**Demonstration 8**		
13	32	Mechanics III	466-472	193-200
15	33	Weather I	252-261	201-215
17	34	**Demonstration 9**		
20	35	Weather II	261-302	227-247
27	36	**Demonstration 10**		
29	37	Planet Earth	214-239	282-295
1	38	Plate Tectonics	240-250	295-301
Dec. 4	39	**Demonstration 11**		
6	40	Flight and Space Travel		215-226
8	41	Planets and Stars	182-212	248-281
11	42	Science and Science Teaching	Read Entire SW (on reverse)	

* Copies of some previous tests are on reserve in the Library.

All Ed 228 students should enroll themselves in the EDUC 228 Blackboard site.
Final exam is not comprehensive. It is given when scheduled by the Registrar.
Cell phones and beepers should be turned off in the classrooms.
Plagiarism: Matters of plagiarism in this course are governed by the definitions, policies, and procedures given on the appropriate pages of the latest edition of the *Moravian College Student Handbook*.

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Office Hours: MW F 11:00- 11:30; Tues. 1pm-3 pm; other times by appointment.

Ed.228 **SCIENCE FOR ELEMENTARY SCHOOLS** **Fall, 2006**

LABORATORY SYLLABUS
(subject to revision)

Date		Class	Topic	Assignment
Aug.	30 & 31	1	Principles of Science Teaching	TSTC xi-xiii; xiv-xv
Sept.	6 & 7	2	Exploratorium Workshop Approaches	TSTC 1-26 (skim)
	13 & 14	3	Curriculum Projects: SAPA and ESS	SCIENCE 5-8 (read); 48-65 (skim)
	20 & 21	4	Curriculum Projects: SCIS and InSights	SCIENCE 66-97 (skim)
	27 & 28	5	Curriculum Projects: FOSS	SCIENCE 118-178 (skim)
Oct.	4 & 5	6	**In-school 1**	
	11 & 12	7	Curriculum Supplements: AIMS	
	18 & 19	8	**In-school 2**	
	25 & 26	9	Piagetian Interview Population Connection and others	
Nov.	1 & 2	10	**In-school 3**	
	8 & 9	11	Curriculum Supplements: various	
	15 & 16	12	**In-school 4**	
	29 & 30	13	**In-school 5**	
Dec.	6 & 7	14	Microcomputers in Science Ed. and Inquiry Science	SCIENCE 98-116 (skim); TSTC 27-42 (skim)

TEXTS: (SCIENCE) Science K-8: An Integrated Approach, 10th ed, Victor and Kellough, 2004
(TSTC) Teaching Science to Children: An integrated Approach, 6th ed., Friedl and Koontz, 2005
(SU) Science Unlimited-Pennsylvania's Resource Guide for Elementary Science

READINGS ON RESERVE: (CC) The Child's Conception of Physical Casuality , Jean Piaget
(SW) A Sense of Wonder, Rachel Carson
Learning Center Activities: Science K- 2, Deborah Candleora
Science Learning Centers for the Primary Grades, Poppe & Van Matre

ATTENDANCE POLICY:

Attendance will be taken in each class period. Unexcused absences in excess of four will reduce the final average of a student at a rate of one percentage point per absence. Students have the responsibility to present the evidence of the nature of an excused absence.

FINAL GRADE:

EXAM 1	15%
EXAM 2	15%
EXAM 3	15%
Learning Center	10%
Classroom Demonstration	10%
Piagetian Interview	15%
In-school experience grade	20%

COURSE OBJECTIVES: Students will successfully and safely do the following:

- demonstrate knowledge of the major principles of the physical, chemical, and Earth sciences.
- use the methodology of scientific inquiry with peers and children.
- use hands-on techniques to teach science concepts to peers and children.
- employ a range of techniques, approaches, and curricular materials that support science education.
- become familiar with a broad range of curricula, supplements, and software that promote science education.
- develop an understanding of the child's way of perceiving nature and his/her place within it.