

# NDSU

## **NORTH DAKOTA SCIENCE TEACHERS:**

### **LOW-COST, CONTENT-RICH SCIENCE COURSES, OPEN ONLY TO TEACHERS,**

### **SUMMER, 2006**

**North Dakota middle / secondary science teachers are encouraged to participate in this early summer series of graduate-level science courses open *only* to teachers!**

- High quality, teacher-centered science course offerings in the advanced sciences.
- Tuition expenses averaging only ≈ \$65 per SH.
- Lunch provided daily to any teacher registering for the program.
- Support is available for on-campus room and board for teachers participating from points distant to Fargo.
- Courses selected to help teachers qualify for **Biology, Chemistry, Earth Science, Composite Science, and Physical Science.**
- At the teacher's option, graduate credits earned in these courses can be later applied toward a M.Ed. (Science Education) graduate degree from NDSU.

**The Summer, 2006, program includes professional development opportunities in:**

- **Chemistry**
- **Biology**
- **Earth Sciences** (Geology)

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Course descriptions and registration information are attached. For further information, contact:

**Donald P. Schwert, Director**

**Ruth Ann Faulkner, Coordinator**

Center for Science & Mathematics Education  
Family Life Center 314  
North Dakota State University  
Fargo, ND 58105-5057

Tel: (701) 231-6357 Fax: (701) 231-5924

E-mail: [ruthann.faulkner@ndsu.edu](mailto:ruthann.faulkner@ndsu.edu)

Internet: [www.ndsu.edu/csme](http://www.ndsu.edu/csme)

The following graduate-level courses will be offered in Summer, 2006, at North Dakota State University for secondary science teachers. These courses are supported by Title II funds and by NDSU. Teachers may apply the graduate-level science courses as electives in the NDSU's M.Ed. (Science Ed.) degree.

**NOTE:** You need not be enrolled in a graduate degree program to take these courses. However you must be enrolled at the NDSU Graduate School. (See NDSU Graduate School Bulletin for information on the quick-and-easy "non-degree enrollment" procedures: [www.ndsu.edu/gradschool/bulletin](http://www.ndsu.edu/gradschool/bulletin))

**Botany 764, Ecological Processes** (3 S.H.)

Ecosystem dynamics, ecological energetics, and biogeochemical transfers, with consideration of anthropogenic aspects.

June 5 - 9: 7:30 a.m. - 12:30 p.m. **plus** June 12 - 30: 7:30 - 8:25 a.m.

(Monday through Friday).

*Please note that this is one section, but offered at a variable meeting time to accommodate science teachers also taking Education 751 ("Students and Their Learning") June 12-30.*

Instructor: Gary Clambey, Ph.D.

Estimated cost: \$175 (plus text)

**Biology 659, Evolution** (3 S.H.)

Discussion of the mechanisms of evolution, including population genetics, selection, speciation, adaptation, and molecular evolution.

June 5 – June 30

Time: 1:00 p.m. – 3:00 p.m. (Monday through Friday)

Instructor: Marvin Fawley, Ph.D.

Estimated cost: \$175 (plus text)

**Chemistry 635, Chemical History** (2 S.H.)

Survey of the history of the chemical sciences from the stone-age through the early 1900's.

June 5 – June 30

Time: 1:00 p.m. – 2:15 p.m. (Monday through Friday)

Instructor: Denley Jacobson, Ph.D.

Estimated cost: \$125 (plus text)

**Chemistry 730, Separations** (2 S.H.)

Theory, instrumentation, and analytical applications of chemical separation methods.

Major emphasis is placed on modern chromatographic techniques and electrophoresis.

June 5 – June 30

Time: 2:30 p.m. – 3:45 p.m. (Monday through Friday)

Instructor: Denley Jacobson, Ph.D.

Estimated cost: \$125 (plus text)

**Geology or Biology 695, Southeastern North Dakota Field Course** (1 S.H. for **Biology or Earth Science**)

Integrated biology and geology field course centered on the natural history of southeastern North Dakota. 2.5 days: 12 noon July 14, all day July 15, all day July 16,

full attendance required. Instructors: Gary Clambey, Ph.D. and Donald Schwert, Ph.D.

Estimated cost: \$100, including travel costs. Trip returns to Fargo every evening. Out-

of-town teachers should contact the CSME in early summer to inquire if any funding is available to support Fargo motel costs (state rate must be used).

Teachers from outside of the Fargo region are eligible for on-campus room and board from June 5<sup>th</sup> to June 30<sup>th</sup>. Please register no later than May 15<sup>th</sup> so that these arrangements can be made on your behalf.

**DISCLAIMERS:** As always, course offerings are considered tentative, subject to change, subject to cancellation by NDSU-DCE, and credit subject to NDSU approval upon course review.

**PLEASE REGISTER BY MAY 15<sup>TH</sup>, SO THAT COURSE ARRANGEMENTS CAN BE MADE.**

See the Center's web site for further course information, a course calendar, and updates:

**[www.ndsu.edu/csme](http://www.ndsu.edu/csme)**

**REGISTRATION FORM:  
SUMMER, 2006**

**Note:** A formal course registration will take place on the first day of your classes.

Name: \_\_\_\_\_

Home Address (In Full): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Home Telephone: \_\_\_\_\_

School Name: \_\_\_\_\_

School Address (In Full): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Your E-Mail Address: \_\_\_\_\_

Your Summer E-Mail Address (if different): \_\_\_\_\_

School Telephone (Please give best hours to call): \_\_\_\_\_  
\_\_\_\_\_

**I WISH TO PRE-REGISTER FOR:**

BOTANY 764	<input type="checkbox"/>	Ecological Processes	\$175.00
BIOLOGY 659	<input type="checkbox"/>	Evolution	\$175.00
CHEMISTRY 635	<input type="checkbox"/>	Chemical History	\$125.00
CHEMISTRY 730	<input type="checkbox"/>	Separations	\$125.00
GEOLOGY 695	<input type="checkbox"/>	Southeastern ND Field Course	\$100.00
		<i>OR</i>	
BIOLOGY 695	<input type="checkbox"/>	Southeastern ND Field Course	

**TOTAL COST OF COURSES:**            \$ \_\_\_\_\_

**I ALSO REQUIRE ON-CAMPUS HOUSING/BOARD ARRANGEMENTS FOR THE SUMMER.**

YES            NO   

**PLEASE RETURN THIS FORM TO:**

Ruth Ann Faulkner  
Center for Science and Mathematics Education  
FLC 314A  
North Dakota State University  
Fargo, ND 58105-5057

Office: (701) 231-6357  
Fax: (701) 231-5924  
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CENTER FOR SCIENCE AND MATHEMATICS EDUCATION  
FAMILY LIFE CENTER 314  
NORTH DAKOTA STATE UNIVERSITY  
FARGO, ND 58105-5057

**SUMMER SCIENCE COURSES  
FOR TEACHERS!**

**PLEASE POST**