

THE OHIO STATE UNIVERSITY
School of Earth Sciences

Earth Sciences 602.01
CARBONATE DEPOSITIONAL SYSTEMS I

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Office Hours: by appointment
by appointment

Lectures: W, R 2:30 80 Orton Hall
Laboratories: T 2:30-4:18 80 Orton Hall

Textbooks: Tucker, M.E., and V.P. Wright. 1990. Carbonate Sedimentology. Blackwell Scientific Publications, London, 482 p.
Wilson, J.L. 1975. Carbonate Facies in Geologic History. Springer-Verlag, New York, 471 p.

COURSE SCHEDULE

Tuesday	6	Jan	Course Introduction -- Carbonates are Unique
Wednesday	7	Jan.	Carbonate Constituents (T&W, p. 1-17)
Thursday	8	Jan.	Carbonate Constituents
Tuesday	13	Jan.	LAB 1: Carbonate Grains [DUE: 1/28/09]
Wednesday	14	Jan.	Carbonate Geochemistry (W, p. 4-5); Origin of Carbonates (W, p. 4-5)
Thursday	15	Jan.	Carbonate Rock Classification (T&W, p. 17-22; W, p. 7-14)
Tuesday	20	Jan.	LAB 1: Continued and LAB 2: Persian Gulf Sediments [DUE: 2/4/09]
Wednesday	21	Jan.	Carbonate Cements and Early Diagenesis
Thursday	22	Jan.	Carbonate Cements and Early Diagenesis
Tuesday	27	Jan.	LAB 1: Quiz on Carbonate Grains; LAB 2: Continued
Wednesday	28	Jan.	Carbonate Depositional Systems (T&W, Ch. 2; W, p. 20-29)
Thursday	29	Jan.	Carbonate Depositional Systems (T&W, Ch. 2; W, p. 20-29)
Tuesday	3	Feb.	LAB 3: Florida and Bahamas Sediments [DUE: 2/25/09]
Wednesday	4	Feb.	South Florida and the Bahamas (T&W, 70-92)
Thursday	5	Feb.	South Florida and the Bahamas Sediments (T&W, 191-223)
Tuesday	10	Feb.	LAB: <i>Overview of San Salvador Field Trip</i>
Wednesday	11	Feb.	Bahamas (T&W, p. 101-116; 137-152)
Thursday	12	Feb.	LECTURE MIDTERM EXAMINATION

Tuesday	17	Feb.	LAB 4: San Salvador Sediments [Due: 3/16/09]
Wednesday	18	Feb.	Shelf-edge Sands (T&W, p. 127-137)
Thursday	19	Feb.	Reefs (T&W, p. 203-224)
Tuesday	24	Feb.	LAB 4: Continued
Wednesday	25	Feb.	Beaches (T&W, p. 101-114, 117-118)
Thursday	26	Feb.	Eolianites (T&W, p. 110-111)
Tuesday	3	Mar.	LAB 4: continued
Wednesday	4	Mar.	Paleosols
Thursday	5	Mar.	Goundwater Flow in Carbonate Rocks
Tuesday	10	Mar.	LAB 5: Hydrogeology
Wednesday	11	Mar.	Dissolution of Carbonate Rocks
Thursday	12	Mar.	Precipitation of Carbonate Rocks (post-diagenesis)

Final Examination: March 13, 2:30: Lab Notebooks due after exam.

Grading:

	<u>Percent</u>
Midterm Examination:	25
Final Examination:	40
Laboratory Notebook:	30
Laboratory Quiz	5



MARCH 20, 2006, ????? AM -- LEAVE FOR THE BAHAMAS {may change}

Course Objectives: An introduction to the origin, composition, and identification of constituents and cement in carbonate rocks, and to carbonate depositional environments. Course content is presented both through lectures and laboratories. Specific, in depth examples are given from the depositional environments of South Florida and the Bahamas, which also serves as the preparation for a one-week field course Geol. Sci. 602.02 at the Gerace Research Center on San Salvador Island Bahamas during the break between winter and spring quarters approximately March 20-28. Geol. Sci. 602.01 is a prerequisite for Geol. Sci. 602.02. Most of the requirements for the second course are completed during the field trip, except for a field guide on the field experience, due by the end of April.

COSTS ASSOCIATED WITH GEOL. SCI. 602.02
FIELD TRIP TO BAHAMIAN FIELD STATION

Fees payable to OSU in installments. Non-refundable \$100 Deposit due January 13.
First installment on the balance due February 6.

- Bahamian Field Station (facilities, room & board, taxes, 7 days)
- Airline Costs
- Insurance
- [in addition, a considerable Department subsidy] _____

- Total cost payable to Ohio State University

IF ALTERNATIVE TRAVEL ARRANGEMENTS ARE MADE, AIR FARE MAY BE HIGHER

Other costs

- Miscellaneous expenses, primarily meals in route and pocket money
(misc transportation expenses and lodging provided by OSU)

PASSPORT

- All travelers to the Bahamas are now required to have a valid passport. If you are not a U.S. citizen, you will also need your passport and a multiple-entry visa.