

SCHEDULE FOR BIOE/CHEME 490 WINTER QUARTER 2003
"ENGINEERING MATERIALS FOR BIOMEDICAL APPLICATIONS"
T. HORBETT, PROF. Tuesday and Thursday 1:30-2:50 Loew 113

<u>#</u>	<u>DAY</u>	<u>DATE</u>	<u>LECTURE TOPIC(S)</u>	<u>LECTURER</u>
1	Tues	Jan 7	Introduction; history; relevance; course organization	T. Horbett
2	Thurs	Jan 9	Materials in clinical devices	Class
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3	Tues	Jan 14	Materials in clinical devices; cont'd Classes of biomaterials 1: Metals	Class T. Horbett
4	Thurs.	Jan 16	Classes of biomaterials 2: Metals continued: Sulzer recall; compositions of stainless steel&Fe/Co/Ti alloys; Mechanical properties	T. Horbett
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5	Tues	Jan 21	Classes of biomaterials 3: Hard Materials 3: Legeros/Craig & Letic-Gavrilovic reviews; HA osteoinductivity	T. Horbett
6	Thurs	Jan 23	Classes of biomaterials 4: Bioceramics and bioglasses; carbons	T. Horbett
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7	Tues	Jan 28	Classes of biomaterials 5: Natural biomaterials; crosslinking; corrosion of implants; newer bone cements	T. Horbett
8	Thurs	Jan 30	Quiz and review of terminology; more on fretting study	T. Horbett

#	DAY	DATE	LECTURE TOPIC(S)	LECTURER
9	Tues	Feb. 4	Classes of biomaterials 7: Polymers	B. Ratner
10	Thurs	Feb. 6	Classes of biomaterials 6: Biomaterials for tissue engineering	K. Hauch

11	Tues	Feb 11	Polymers as biomaterials, especially polyurethanes	B. Ratner
12	Thurs	Feb 13	Classes of biomaterials: PEUs, finish; Surface analysis methods	B. Ratner

13	Tues	Feb 18	Midterm exam	T. Horbett
14	Thurs	Feb 20	Failure of devices	Class

15	Tues	Feb 25	Finish Failure of devices exercise; Demo and lecture on protein adsorption	Class T. Horbett
16	Thurs	Feb 27	Biological reactions to implants: Blood clotting; foreign body reaction; infection; osteolysis	T. Horbett

17	Tues	March 4	Surface characterization	D. Castner
18	Thurs	March 6	Biomaterials in drug delivery	A. Hoffman

19	Tues	March 11	Biological correlations	B. Ratner
20	Thurs	March 13	Case study: Cardiovascular devices	T. Horbett

Final exam to be given on: Friday March 21 2:30-4:20 Loew 113

* Lecture schedule and outline is tentative, and may be changed.