

## THE UCLA CHEMISTRY-MATERIALS SCIENCE MAJOR 2007 - 2008

The Department of Chemistry and Biochemistry offers four undergraduate majors, two concentrations, and one specialization: the *CHEMISTRY* major, the *PHYSICAL CHEMISTRY* concentration, the *BIOCHEMISTRY* major, the *GENERAL CHEMISTRY* major (for students who want to acquire a good chemical background in preparation for careers outside chemistry), the *CHEMISTRY-MATERIALS SCIENCE* major (listed here), the *CHEMISTRY-MATERIALS SCIENCE ORGANIC* concentration, and the *COMPUTING SPECIALIZATION*. For more details about these majors, consult your faculty advisor or the Undergraduate Office in 4009 Young Hall.

**THE CHEMISTRY-MATERIALS SCIENCE MAJOR:** The major is designed primarily for students who are interested in chemistry with an emphasis on material properties. The major provides appropriate preparation for graduate studies in fields emphasizing interdisciplinary research involving chemistry, engineering, and applied science. Refer to the UCLA General Catalog for course descriptions.

Preparation for the Major	
General Chemistry:	Chem 20A(H), 20B(H), 20L, 30AL
Organic Chemistry:	Chem 30A(H)
Math:	31A, 31B, 32A, 32B, 33B
Physics:	1A(H), 1B(H), 1C(H), 4BL
Note: (H) indicates that an HONORS section is available	

Upper Division Major Requirements	
Chemistry	Chem 110A, 113A, 171, C185, [C172 or C180 or C181]
4 Units from Chemistry:	110B, 113B, C172*, C174, C175, C176, C180*, C181*
Materials Science & Engineering:	104, 110, 110L, 120, 131, [121 or 150 or 160]
8 Units from Materials Science & Engineering	111, 121*, 122, 132, 150*, 160*, 162, CM180
7 Laboratory Units from:	Chem 114, 184, Materials Science & Engineering 121L, 131L, 161L
*course may only be applied once to the major [ ] pick one course enclosed in brackets	

### Important Notes

- You may not take or repeat a chemistry or biochemistry course for credit if it is a prerequisite for a more advanced course for which you already have credit.
- Seminars, individual study courses, and research courses (e.g. 196, 199) **may not be used** to satisfy the requirements for the Chemistry Materials Science major.
- You must maintain at least a 2.0 GPA in all upper division coursework taken to fulfill the major requirements.
- All prep for major and major courses must be taken for a letter grade.

**SCHEDULE:** The following schedule for the first six quarters is strongly recommended for students planning to major in Chemistry-Materials Science:

COURSES		QUARTER					
		1	2	3	4	5	6
	Chemistry	20A	20B & 20L	30A & 30AL		171	110A or 172
	Mat. Science				104		110, 110L
	Mathematics	31A	31B	32A	32B	33B	
	Physics		1A	1B	1C	4BL	

**COLLEGE REQUIREMENTS FOR THE B.S. DEGREE:** Requirements for the B.S. degree established by the College of Letters and Science are listed in the UCLA General Catalog. A total of 180 quarter units are required for the degree, **60 of these 180 units must be upper division (course numbers 100-199).**

**UPPER DIVISION COURSES:** The program of upper division courses for the Chemistry-Materials Science major should be planned with care. Particular attention should be paid to prerequisites for advanced courses. Please consult with the Undergraduate Office in 4009 Young Hall if you have questions about course planning.

COURSE	PREREQUISITE
<i>Required:</i>	
<b>Chemistry</b>	
110A	Chem 20B; Math 32A or 3C; Physics 1A(H), 1B(H), 1C(H)*, or Physics 6A(H), 6B(H), 6C(H)*
110B	Chem 110A, 113A; Math 32B
113A	Chem 20B; Math 32A, 32B 33B; Physics 6A, 6B, 6C or 1A, 1B, 1C
113B	Chem 113A
114	Chem 30AL, 110A, 113A and EITHER 110B* or C113B*
171	Chem 30B
C172	Chem 171
C174	Chem 30CL, C172
C175	Chem 110AB, 113A, C172
C176	Chem 113A, C172
C180	Chem C172
C181	Chem 30B, 110A
184	Chem 30CL, 110A
C185	Chem 30AL, 110A, 113A, 171
<b>Material Science &amp; Engineering</b>	
104	Chem 20A, 20B, 20L, Physics 1A, 1B
110	Mat-Sci and Eng 104
110L	Mat-Sci and Eng 104
111	Mat-Sci and Eng 104, 110
120	Mat-Sci and Eng 104, 110 (or Chem 113A)
121	Mat-Sci and Eng 120
121L	Mat Sci 121 (co-requisite)
122	Mat-Sci and Eng 104
131	Mat-Sci and Eng 130
131L	Mat-Sci and Eng 131
132	Mat-Sci and Eng 131
150	No prerequisites required
160	Mat-Sci and Eng 104, 130
161L	Mat-Sci and Eng 160 (161 is a recommended co-requisite)
162	Mat-Sci and Eng 104 Electrical Eng 100
CM180	Mat-Sci and Eng 104 or Chem 20A, 20B, 20L

\* indicates *may be taken concurrently* with the course