Sather Tower (the Campanile), landmark on the University of California, Berkeley campus, was a gift from Jane K. Sather. Designed by John Galen Howard, the granite and steel construction was completed in 1914. Delivery of the original 12 bronze bells, cast by John Taylor and Sons, Loughborough, England, was delayed by World War I, and the Campanile was silent until Nov. 2, 1917. The tower is popularly known as the Campanile because of its resemblance to St. Mark's Campanile in Venice, Italy.
The history of the University of California, Berkeley, as these pages tell, is the story of building a great public university. Berkeley has looked to the future since its very beginnings, when its founders plotted the campus’s boundaries along two forks of Strawberry Creek on its journey to the Pacific. Today, our expansive campus is no longer bounded by those two streams. Instead, we define ourselves by two intersecting purposes out of which flows our vision for the future: to excel in all that we undertake and to serve the public trust in all that we do.

What this means to our students is a commitment to provide them with the finest education a world-class research university can offer. But at Berkeley we also seek to engage all of our students, as we do our superb faculty and our talented staff, in bringing our collective intellectual forces to bear on the issues that shape our world.

If you are a student using this catalog to map your educational journey, I believe you will be inspired by the richness of opportunity Berkeley offers. The thousands of courses suggest extraordinary possibilities to expand your knowledge, and the faculty who will teach you are among the very best, most dedicated to be found. Further, Berkeley students may be assured that the knowledge acquired inside their classrooms and laboratories will be amplified by their interaction with fellow students of exceptional intellect and remarkable diversity.

Our knowledge-based future will demand that our students be educated in what is practical and useful, but it will require, more than ever before, a mind that can grasp genuine complexity. At Berkeley, the education we provide seeks nothing less.

Robert M. Berdahl, Ph.D.
Chancellor, UC Berkeley
## Contents

### General Information

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Academic Calendar</td>
</tr>
<tr>
<td>6</td>
<td>Information Guide</td>
</tr>
<tr>
<td>6</td>
<td>Helpful Publications</td>
</tr>
<tr>
<td>9</td>
<td>About Berkeley</td>
</tr>
<tr>
<td>21</td>
<td>Student Life</td>
</tr>
<tr>
<td>31</td>
<td>Undergraduate Education</td>
</tr>
<tr>
<td>49</td>
<td>Graduate Education</td>
</tr>
<tr>
<td>69</td>
<td>Fees and Financial Aid</td>
</tr>
<tr>
<td>77</td>
<td>Academic Policies</td>
</tr>
<tr>
<td>87</td>
<td>Colleges, Schools, and Interdisciplinary Programs</td>
</tr>
<tr>
<td>88</td>
<td>Haas School of Business</td>
</tr>
<tr>
<td>91</td>
<td>College of Chemistry</td>
</tr>
<tr>
<td>92</td>
<td>Graduate School of Education</td>
</tr>
<tr>
<td>93</td>
<td>College of Engineering</td>
</tr>
<tr>
<td>95</td>
<td>College of Environmental Design</td>
</tr>
<tr>
<td>96</td>
<td>School of Information Management and Systems</td>
</tr>
<tr>
<td>98</td>
<td>Graduate School of Journalism</td>
</tr>
<tr>
<td>98</td>
<td>School of Law</td>
</tr>
<tr>
<td>99</td>
<td>College of Letters and Science (L&amp;S)</td>
</tr>
<tr>
<td>103</td>
<td>College of Natural Resources</td>
</tr>
<tr>
<td>106</td>
<td>School of Optometry</td>
</tr>
<tr>
<td>107</td>
<td>School of Public Health</td>
</tr>
<tr>
<td>108</td>
<td>Goldman School of Public Policy</td>
</tr>
<tr>
<td>109</td>
<td>School of Social Welfare</td>
</tr>
<tr>
<td>111</td>
<td>Interdisciplinary Education</td>
</tr>
<tr>
<td>113</td>
<td>Environmental Studies at Berkeley</td>
</tr>
<tr>
<td>113</td>
<td>International and Area Studies</td>
</tr>
<tr>
<td>115</td>
<td>Introduction to Courses and Curricula</td>
</tr>
</tbody>
</table>

### Courses and Curricula

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>121</td>
<td>Aerospace Studies</td>
</tr>
<tr>
<td>121</td>
<td>African American Studies</td>
</tr>
<tr>
<td>125</td>
<td>Agricultural and Environmental Chemistry</td>
</tr>
<tr>
<td>126</td>
<td>Agricultural and Resource Economics</td>
</tr>
<tr>
<td>126</td>
<td>Environmental Economics and Policy</td>
</tr>
<tr>
<td>128</td>
<td>American Studies</td>
</tr>
<tr>
<td>129</td>
<td>Ancient History and Mediterranean Archaeology</td>
</tr>
<tr>
<td>130</td>
<td>Anthropology</td>
</tr>
<tr>
<td>136</td>
<td>Applied Science and Technology</td>
</tr>
<tr>
<td>136</td>
<td>Architecture</td>
</tr>
<tr>
<td>141</td>
<td>Visual Studies</td>
</tr>
<tr>
<td>141</td>
<td>Art and History of Art</td>
</tr>
<tr>
<td>141</td>
<td>Practice of Art</td>
</tr>
<tr>
<td>143</td>
<td>History of Art</td>
</tr>
<tr>
<td>148</td>
<td>Asian American Studies</td>
</tr>
<tr>
<td>150</td>
<td>Asian Studies</td>
</tr>
<tr>
<td>153</td>
<td>Astronomy</td>
</tr>
<tr>
<td>155</td>
<td>Bioengineering</td>
</tr>
<tr>
<td>156</td>
<td>Bioengineering—Graduate Training at Berkeley and UC San Francisco</td>
</tr>
<tr>
<td>156</td>
<td>Biology</td>
</tr>
<tr>
<td>157</td>
<td>Biophysics</td>
</tr>
<tr>
<td>157</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>157</td>
<td>Buddhist Studies</td>
</tr>
<tr>
<td>157</td>
<td>Business Administration</td>
</tr>
<tr>
<td>165</td>
<td>Celtic Studies</td>
</tr>
<tr>
<td>167</td>
<td>Chemical Engineering</td>
</tr>
<tr>
<td>169</td>
<td>Chemistry</td>
</tr>
<tr>
<td>172</td>
<td>Chicano Studies</td>
</tr>
<tr>
<td>174</td>
<td>City and Regional Planning</td>
</tr>
<tr>
<td>177</td>
<td>Civil and Environmental Engineering</td>
</tr>
<tr>
<td>185</td>
<td>Classics</td>
</tr>
<tr>
<td>189</td>
<td>Cognitive Science</td>
</tr>
<tr>
<td>190</td>
<td>College Writing Programs</td>
</tr>
<tr>
<td>190</td>
<td>Comparative Biochemistry</td>
</tr>
<tr>
<td>191</td>
<td>Comparative Literature</td>
</tr>
<tr>
<td>193</td>
<td>Computer Science</td>
</tr>
<tr>
<td>194</td>
<td>Dance</td>
</tr>
<tr>
<td>194</td>
<td>Demography</td>
</tr>
<tr>
<td>196</td>
<td>Development Studies</td>
</tr>
<tr>
<td>198</td>
<td>Dramatic Art/Center for Theater Arts</td>
</tr>
<tr>
<td>201</td>
<td>Dutch Studies</td>
</tr>
<tr>
<td>202</td>
<td>East Asian Languages</td>
</tr>
<tr>
<td>206</td>
<td>East European Studies</td>
</tr>
<tr>
<td>206</td>
<td>Economics</td>
</tr>
<tr>
<td>209</td>
<td>Education</td>
</tr>
<tr>
<td>219</td>
<td>Electrical Engineering and Computer Sciences</td>
</tr>
<tr>
<td>221</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>225</td>
<td>Computer Science</td>
</tr>
<tr>
<td>228</td>
<td>Endocrinology</td>
</tr>
<tr>
<td>228</td>
<td>Energy and Resources Group</td>
</tr>
<tr>
<td>230</td>
<td>Engineering</td>
</tr>
<tr>
<td>232</td>
<td>Engineering—Double Major Programs</td>
</tr>
<tr>
<td>232</td>
<td>Engineering—Interdisciplinary Studies</td>
</tr>
<tr>
<td>233</td>
<td>Engineering Science</td>
</tr>
<tr>
<td>234</td>
<td>English</td>
</tr>
<tr>
<td>239</td>
<td>Environmental Design</td>
</tr>
<tr>
<td>240</td>
<td>Environmental Health Sciences</td>
</tr>
<tr>
<td>240</td>
<td>Environmental Science, Policy, and Management</td>
</tr>
<tr>
<td>249</td>
<td>Environmental Sciences</td>
</tr>
<tr>
<td>250</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>251</td>
<td>Ethnic Studies</td>
</tr>
<tr>
<td>252</td>
<td>Ethnic Studies Graduate Group</td>
</tr>
<tr>
<td>253</td>
<td>Film</td>
</tr>
<tr>
<td>254</td>
<td>Folklore</td>
</tr>
<tr>
<td>255</td>
<td>French</td>
</tr>
<tr>
<td>258</td>
<td>Geography</td>
</tr>
<tr>
<td>263</td>
<td>Geology and Geophysics</td>
</tr>
<tr>
<td>267</td>
<td>German</td>
</tr>
<tr>
<td>272</td>
<td>Health and Medical Sciences Program</td>
</tr>
<tr>
<td>274</td>
<td>Health Services and Policy Analysis</td>
</tr>
<tr>
<td>274</td>
<td>History</td>
</tr>
<tr>
<td>279</td>
<td>Human Biodynamics</td>
</tr>
<tr>
<td>279</td>
<td>Industrial Engineering and Operations Research</td>
</tr>
<tr>
<td>281</td>
<td>Infectious Diseases and Immunology</td>
</tr>
<tr>
<td>281</td>
<td>Information Management and Systems</td>
</tr>
<tr>
<td>284</td>
<td>Integrative Biology</td>
</tr>
<tr>
<td>292</td>
<td>Interdepartmental Studies</td>
</tr>
<tr>
<td>293</td>
<td>Interdisciplinary Studies</td>
</tr>
<tr>
<td>294</td>
<td>International and Area Studies</td>
</tr>
<tr>
<td>296</td>
<td>Italian Studies</td>
</tr>
<tr>
<td>298</td>
<td>Journalism</td>
</tr>
<tr>
<td>300</td>
<td>Landscape Architecture and Environmental Planning</td>
</tr>
<tr>
<td>303</td>
<td>Latin American Studies</td>
</tr>
<tr>
<td>305</td>
<td>Law</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>312</td>
<td>Legal Studies</td>
</tr>
<tr>
<td>314</td>
<td>Linguistics</td>
</tr>
<tr>
<td>317</td>
<td>Logic and the Methodology of Science</td>
</tr>
<tr>
<td>317</td>
<td>Manufacturing Engineering</td>
</tr>
<tr>
<td>318</td>
<td>Mass Communications</td>
</tr>
<tr>
<td>319</td>
<td>Materials Science and Mineral Engineering</td>
</tr>
<tr>
<td>323</td>
<td>Mathematics</td>
</tr>
<tr>
<td>328</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>334</td>
<td>Medieval Studies</td>
</tr>
<tr>
<td>334</td>
<td>Microbiology</td>
</tr>
<tr>
<td>335</td>
<td>Middle Eastern Studies</td>
</tr>
<tr>
<td>336</td>
<td>Military Officers' Education Program (ROTC)</td>
</tr>
<tr>
<td>336</td>
<td>Military Affairs</td>
</tr>
<tr>
<td>336</td>
<td>Aerospace Studies (Air Force ROTC)</td>
</tr>
<tr>
<td>337</td>
<td>Military Science (Army ROTC)</td>
</tr>
<tr>
<td>337</td>
<td>Naval Science (Navy ROTC)</td>
</tr>
<tr>
<td>338</td>
<td>Molecular and Cell Biology</td>
</tr>
<tr>
<td>345</td>
<td>Music</td>
</tr>
<tr>
<td>350</td>
<td>Native American Studies</td>
</tr>
<tr>
<td>351</td>
<td>Natural Resources</td>
</tr>
<tr>
<td>351</td>
<td>Naval Architecture and Offshore Engineering</td>
</tr>
<tr>
<td>351</td>
<td>Near Eastern Studies</td>
</tr>
<tr>
<td>358</td>
<td>Neurobiology</td>
</tr>
<tr>
<td>358</td>
<td>Nuclear Engineering</td>
</tr>
<tr>
<td>360</td>
<td>Nutrition</td>
</tr>
<tr>
<td>360</td>
<td>Nutritional Sciences</td>
</tr>
<tr>
<td>362</td>
<td>Ocean Engineering</td>
</tr>
<tr>
<td>363</td>
<td>Optometry</td>
</tr>
<tr>
<td>364</td>
<td>Vision Science</td>
</tr>
<tr>
<td>366</td>
<td>Peace and Conflict Studies</td>
</tr>
<tr>
<td>368</td>
<td>Philosophy</td>
</tr>
<tr>
<td>370</td>
<td>Physical Education</td>
</tr>
<tr>
<td>371</td>
<td>Physical Science</td>
</tr>
<tr>
<td>371</td>
<td>Physics</td>
</tr>
<tr>
<td>375</td>
<td>Plant and Microbial Biology</td>
</tr>
<tr>
<td>377</td>
<td>Political Economy of Industrial Societies</td>
</tr>
<tr>
<td>379</td>
<td>Political Science</td>
</tr>
<tr>
<td>386</td>
<td>Psychology</td>
</tr>
</tbody>
</table>

Appendix and Index

<table>
<thead>
<tr>
<th>Appendix</th>
<th>California Residency and the Nonresident</th>
</tr>
</thead>
<tbody>
<tr>
<td>442 Criteria Used in Selecting Freshmen</td>
<td>444 Tuition Fee</td>
</tr>
<tr>
<td>442 Criteria Used in Selecting Advanced-Standing Students</td>
<td>445 Policy on Course Notes and Recordings</td>
</tr>
<tr>
<td>443 Graduation Rates</td>
<td>446 Organized Research Units</td>
</tr>
<tr>
<td>443 Self-Paced Courses</td>
<td>446 Campus Historical Resources</td>
</tr>
<tr>
<td>443 Professional Development Program</td>
<td>447 Officers of Administration</td>
</tr>
<tr>
<td>443 University Research Expeditions Program</td>
<td>449 Index</td>
</tr>
<tr>
<td>444 California Residency and the Nonresident</td>
<td>454 Campus Map</td>
</tr>
<tr>
<td>444 Tuition Fee</td>
<td>456 Answers to CAL Quiz</td>
</tr>
</tbody>
</table>

General Catalog, University of California, Berkeley, 1999-01.

All qualified students—regardless of race, sex, color, creed, age, handicap, sexual orientation, or national origin—are welcome.

To obtain the General Catalog by mail, write to the ASUC Store, University of California, Berkeley, Attn: Mail Order Department #4504, Berkeley, CA 94720-4504; or telephone (510) 444-6251.

UC Berkeley home page: http://www.berkeley.edu
# Academic Calendar

## Summer Sessions 1999

<table>
<thead>
<tr>
<th>Session Type</th>
<th>Dates</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Six-Week Session</td>
<td>May 24-July 2</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Memorial Day Holiday</td>
<td>May 31</td>
<td>Monday</td>
</tr>
<tr>
<td>Ten-Week Session</td>
<td>June 7-August 13</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Eight-Week Session</td>
<td>June 21-August 13</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Independence Day Holiday</td>
<td>July 5</td>
<td>Monday</td>
</tr>
<tr>
<td>Second Six-Week Session</td>
<td>July 6-August 13</td>
<td>Tuesday-Friday</td>
</tr>
<tr>
<td>Three-Week Session</td>
<td>July 26-August 13</td>
<td>Monday-Friday</td>
</tr>
</tbody>
</table>

## Fall Semester 1999

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee Payment Due</td>
<td>July 15</td>
<td>Thursday</td>
</tr>
<tr>
<td>Tele-BEARS</td>
<td>April 12-September 10</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Welcome Week</td>
<td>August 16-20</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Fall Semester Begins</td>
<td>August 17</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>August 23</td>
<td>Monday</td>
</tr>
<tr>
<td>Labor Day Holiday</td>
<td>September 6</td>
<td>Monday</td>
</tr>
<tr>
<td>Thanksgiving Holiday</td>
<td>November 25, 26</td>
<td>Thursday, Friday</td>
</tr>
<tr>
<td>Instruction Ends</td>
<td>December 4</td>
<td>Saturday</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>December 8-16</td>
<td>Wednesday-Thursday</td>
</tr>
<tr>
<td>Fall Semester Ends</td>
<td>December 16</td>
<td>Thursday</td>
</tr>
<tr>
<td>Winter Holiday</td>
<td>December 24-27</td>
<td>Friday-Monday</td>
</tr>
<tr>
<td>New Year's Holiday</td>
<td>December 30, 31</td>
<td>Thursday, Friday</td>
</tr>
</tbody>
</table>

## Spring Semester 2000

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee Payment Due</td>
<td>December 15</td>
<td>Wednesday</td>
</tr>
<tr>
<td>Tele-BEARS</td>
<td>October 25-February 4</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Spring Semester Begins</td>
<td>January 11</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Martin Luther King, Jr., Holiday</td>
<td>January 17</td>
<td>Monday</td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>January 18</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Presidents' Day Holiday</td>
<td>February 21</td>
<td>Monday</td>
</tr>
<tr>
<td>Spring Recess</td>
<td>March 27-31</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Spring Holiday</td>
<td>March 31</td>
<td>Friday</td>
</tr>
<tr>
<td>Instruction Ends</td>
<td>May 8</td>
<td>Monday</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>May 12-20</td>
<td>Friday-Saturday</td>
</tr>
<tr>
<td>Spring Semester Ends</td>
<td>May 20</td>
<td>Saturday</td>
</tr>
</tbody>
</table>

## Summer Sessions 2000

<table>
<thead>
<tr>
<th>Session Type</th>
<th>Dates</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memorial Day Holiday</td>
<td>May 29</td>
<td>Monday</td>
</tr>
<tr>
<td>First Six-Week Session</td>
<td>May 22-June 30</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Ten-Week Session</td>
<td>June 5-August 11</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Eight-Week Session</td>
<td>June 19-August 11</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Independence Day Holiday</td>
<td>July 4</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Second Six-Week Session</td>
<td>July 3-August 11</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Three-Week Session</td>
<td>July 24-August 11</td>
<td>Monday-Friday</td>
</tr>
</tbody>
</table>
### Fall Semester 2000

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Period</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee Payment Due</td>
<td>July 14</td>
<td>Friday</td>
</tr>
<tr>
<td>Tele-BEARS</td>
<td>April 10-September 8</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Welcome Week</td>
<td>August 21-25</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Fall Semester Begins</td>
<td>August 22</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>August 28</td>
<td>Monday</td>
</tr>
<tr>
<td>Labor Day Holiday</td>
<td>September 4</td>
<td>Thursday-Friday</td>
</tr>
<tr>
<td>Thanksgiving Holiday</td>
<td>November 23-24</td>
<td>Saturday</td>
</tr>
<tr>
<td>Instruction Ends</td>
<td>December 9</td>
<td>Wednesday-Thursday</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>December 13-21</td>
<td>Thursday</td>
</tr>
<tr>
<td>Fall Semester Ends</td>
<td>December 21</td>
<td>Monday, Tuesday</td>
</tr>
<tr>
<td>Winter Holiday</td>
<td>December 25, 26</td>
<td>Friday-Monday</td>
</tr>
<tr>
<td>New Year’s Holiday</td>
<td>December 29-January 1</td>
<td></td>
</tr>
</tbody>
</table>

### Spring Semester 2001

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Period</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee Payment Due</td>
<td>December 15</td>
<td>Thursday</td>
</tr>
<tr>
<td>Tele-BEARS</td>
<td>October 23-February 2</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Spring Semester Begins</td>
<td>January 9</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Martin Luther King, Jr.,</td>
<td>January 15</td>
<td>Monday</td>
</tr>
<tr>
<td>Holiday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>January 16</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Presidents' Day Holiday</td>
<td>February 19</td>
<td>Monday</td>
</tr>
<tr>
<td>Spring Recess</td>
<td>March 26-30</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Spring Holiday</td>
<td>March 30</td>
<td>Friday</td>
</tr>
<tr>
<td>Instruction Ends</td>
<td>May 7</td>
<td>Monday</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>May 11-19</td>
<td>Friday-Saturday</td>
</tr>
<tr>
<td>Spring Semester Ends</td>
<td>May 19</td>
<td>Saturday</td>
</tr>
</tbody>
</table>

### Summer Sessions 2001

<table>
<thead>
<tr>
<th>Session</th>
<th>Date/Period</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Six-Week Session</td>
<td>May 21-June 29</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Memorial Day Holiday</td>
<td>May 28</td>
<td>Monday</td>
</tr>
<tr>
<td>Ten-Week Session</td>
<td>June 4-August 10</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Eight-Week Session</td>
<td>June 18-August 10</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Second Six-Week Session</td>
<td>July 2-August 10</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Independence Day Holiday</td>
<td>July 4</td>
<td>Wednesday</td>
</tr>
<tr>
<td>Three-Week Session</td>
<td>July 23-August 10</td>
<td>Monday-Friday</td>
</tr>
</tbody>
</table>
Information Guide

Helpful Publications

General Catalog & Schedule of Classes
by mail:
ASUC Textbook Store
University of California, Berkeley
Berkeley, CA 94720-4504
Attn: Mail Order Dept.
by telephone:
call 444-6251

Resource: A reference guide for new Berkeley students
Office of New Student Programs
2515 Channing Way, 643-9181

College and School Announcements
(available at colleges and schools)

University of California, Berkeley Policies Applying to Campus Activities, Organizations, and Students
Student Activities and Services
102 Sproul Hall, 642-5171

University of California, Berkeley
Berkeley, CA 94720
Area Code 510
General information: 642-6000
http://www.berkeley.edu/

Admissions, Graduate
309 Sproul Hall, 642-7405
http://amber.berkeley.edu/ouars/

Admissions, Undergraduate
110 Sproul Hall, 642-3175
Fax: 642-7333
TTY/TDD: 642-8396
http://www.uga.berkeley.edu/ouars/

Advising, Career and Graduate School
2111 Bancroft Way, 642-1716
TTY/TDD: 642-6252, 642-5373
Fax: 642-6987
http://Career.Berkeley.edu/

Advising, Student Life
140 Cesar Chavez Student Center, 642-7224
Fax: 642-9078
http://www-slc.uga.berkeley.edu/ssl/ssl.html

Alumni Association
1 Alumni House, 642-7026, 1-888-CAL-ALUM
Fax: 642-6252
http://www.alumni.berkeley.edu/

Associated Students (ASUC)
200 Eshleman Hall, 642-1431
Fax: 643-6396
http://www.asuc.org/

Athletics, Intercollegiate
210 Memorial Stadium, 642-5363
Ticket office, 2223 Fulton St., 64-BEARS or 800-GO-BEARS
Fax: 643-7778
http://www.calbears.com/

Berkeley Art Museum
2626 Bancroft Way, 642-0808
Fax: 642-4889
http://www.bampfa.berkeley.edu/

Botanical Garden
200 Centennial Drive, 642-0849, 642-9856
Fax: 642-5045
http://www.mip.berkeley.edu/garden

Career Center
2111 Bancroft Way, 642-1716
TTY/TDD: 642-6252, 642-5373
Fax: 642-6987
http://www.bampfa.berkeley.edu/cgss/

Child Care Services
2537 Haste Street, 642-1827
Fax: 642-8033
CPS@uhhs.berkeley.edu
Counseling and Psychological Services
2222 Bancroft Way, 642-9494
Fax: 642-2368

Disabled Students’ Program
230 Cesar Chavez Student Center, 642-0518
TTY/TDD: 642-6376
Fax: 643-9686
http://dsp.berkeley.edu/

Education Abroad Program
160 Stephens Hall, 642-1356, 642-1790
Fax: 643-8370
http://www.ias.berkeley.edu/bpsa/

Educational Opportunity Program and Affirmative Action (EOP/AA)
140 Cesar Chavez Student Center, 642-7224
Fax: 642-9078

Financial Aid, Graduate
201 Sproul Hall, 642-0485
Fax: 642-5731
http://uga.berkeley.edu/fao/gpuint.htm

Financial Aid, Undergraduate
211 Sproul Hall, 642-6442
Fax: 643-5526
http://uga.berkeley.edu/fao/

Health Services
Tang Center, 2222 Bancroft Way
Medical services, 642-2000
Counseling and Psychological Services, 642-9494
24-hour advice line, 643-7197
Student Health Insurance Plan, 642-5700
http://www.ubs.berkeley.edu/
Vision Care
School of Optometry Clinics:
200 Minor Hall, 642-2020
Fax: 642-4025
Tang Center, 643-2020
http://spectacle.berkeley.edu

Housing, Campus
2401 Bowditch Street, 642-4108
Fax: 643-7126
e-mail: reshall@uclink.berkeley.edu
http://www.housing.berkeley.edu/calstyle/

Housing, Off-Campus
2405 Bowditch Street, 642-3642
Fax: 642-4026
e-mail: homeinfo@uclink.berkeley.edu

Info-BEARS
642-9400

International, Campus
642-INFO (4636)

Interfraternity Council (Fraternities)
102 Sproul Hall, 643-6919

International Student Admissions, Graduate
309 Sproul Hall, 642-7405
Fax: 643-1524
http://amber.berkeley.edu:5900/

International Student Admissions, Undergraduate
110 Sproul Hall, 642-3246
Fax: 642-7333
ouars@uclink4.berkeley.edu

International Student and Scholar Advising
Services for International Students and Scholars
International House
2299 Piedmont Avenue, 642-2818
Fax: 643-7289
e-mail: siss@uclink.berkeley.edu

Photo, far left: Pacific Film Archive, film department of the Berkeley Art Museum, offers nightly programs of international cinema to the public. Pictured here is a scene from "Cassandra Cat," a 1963 Czech film directed by Vojtech Jasny.

Photo, near left: Soda Hall is a state-of-the-art center for research and teaching in computer science.
What is the origin of the UC motto, "Let There Be Light"?

(Answer on page 456.)
About Berkeley

South Hall, the Berkeley campus, and their environs, 1874. The first building at Berkeley, South Hall today houses the School of Information Management and Systems.
History of the University

The roots of the University of California go back to the gold rush days of 1849, when the drafters of the State Constitution, a group of vigorous and farsighted people, required the legislature to "encourage by all suitable means the promotion of intellectual, scientific, moral and agricultural improvement" of the people of California. California had few families in 1849 and few children to educate, but these early planners dreamed of a university which eventually, "if properly organized and conducted, would contribute even more than California's gold to the glory and happiness of advancing generations."

The university that was born nearly 20 years later was the product of a merger between the College of California (a private institution) and the Agricultural, Mining, and Mechanical Arts College (a land grant institution). The College of California, founded by former Congregational minister Henry Durant from New England, was incorporated in 1855 in Oakland. Its curriculum was modeled after that of Yale and Harvard, with the addition of modern languages to the core courses in Latin, Greek, history, English, mathematics, and natural history. With an eye to future expansion, the board of trustees augmented the college's Oakland holdings with the purchase of 160 acres of land four miles north, on a site they named Berkeley in 1866. This original tract was to be considerably expanded over the years.

While the College of California was in its infancy, efforts continued in the state legislature to create a public educational institution, and in 1866 the legislature took advantage of the federal Morrill Land Grant Act of 1862 to establish the Agricultural, Mining, and Mechanical Arts College. The college was to teach agricultural, mechanical arts, and military tactics "to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." Scientific and classical studies were not to be excluded but were of secondary importance.

The boards of trustees of the College of California and the Agricultural, Mining, and Mechanical Arts College decided to merge the two schools to their mutual advantage—one had land but insufficient funds and the other had ample public funds but no land—on the condition that the curricula of both schools be blended to form "a complete university." On March 23, 1868, the governor signed into law the Organic Act that created the University of California. The new university used the former College of California's buildings in Oakland until South Hall and North Hall were completed on the Berkeley site (South Hall is still standing), and in September 1873 the University, with an enrollment of 191 students, moved to Berkeley.

Fiscal problems plagued the new University, and it was not until the 20-year presidency of Benjamin Ide Wheeler beginning in 1899 that finances stabilized, allowing the University to grow in size and distinction. Early in this period Phoebe Apperson Hearst, one of the University's most generous benefactors, conceived of and financed an international competition for campus architectural plans that, she stipulated, "should be worthy of the great University whose material home they are to provide for."

The competition, won by Emile Bénard of Paris, brought Berkeley not only a building plan but worldwide notoriety. The London Spectator wrote, "On the face of it this is a grand scheme, reminding one of those famous competitions in Italy in which Brunelleschi and Michael Angelo took part. The conception does honor to the nascent citizenship of the Pacific states. . . ." At Oxford University, which at the time was strapped for funds, a Latin orator said, "There is brought a report that in California there is already established a university furnished with so great resources that even to the architects (a lavish kind of men) full permission has been given to spare no expense. Amidst the most pleasant hills on an elevated site, commanding a wide sea view, is to be placed a home of Universal Science and a seat of the muses."

John Galen Howard, the supervising architect charged with implementing the Bénard plan, took advantage of his "permission to spare no expense" and developed a style of architecture that reinterpreted the grace, dignity, and austerity of classical lines to suit the California environment. Some of the campus's most elegant and stately structures were built during Howard's tenure, among them the Hearst Memorial Mining Building (1902-7), the Hearst Greek Theatre (1903), California Hall (1905), Doe Library (1911-17), the Campanile (1914), Wheeler Hall (1917), Gilman Hall (1917), and Hilgard Hall (1918).

President Wheeler, a classical scholar and able administrator, attracted library and scholarship funds, research grants, and a distinguished faculty to the University, and its reputation grew, particularly in the fields of agriculture, the humanities, and engineering. Many new departments were added in the early years of his presidency, and existing departments expanded. Summer sessions were begun in 1899 to train physics and chemistry teachers and before long broadened their scope.

The University grew with the rapidly expanding population of California and responded to the educational needs of the developing state. In the early 1900s the University's new College of Commerce (now the School of Business Administration) trained students for export trade with the Orient and funneled graduates into industries and businesses throughout the state. During the same period a foreign service training program was developed in response to State Department concern about the poor quality of consular personnel.
In 1930 Robert Gordon Sproul began a presidency that lasted three decades. His principal concern was academic excellence, and he was committed to attracting brilliant faculty in all fields. His success was particularly evident in the physical and biological sciences. In the 1930s research on campus burgeoned in nuclear physics, chemistry, and biology, leading to the development of the first cyclotron by Ernest O. Lawrence, the isolation of the human polio virus, and the discovery of all the artificial elements heavier than uranium. Fifteen members of the Berkeley faculty have been awarded Nobel Prizes for these and subsequent discoveries, as well as in literature and economics, for liberal arts kept pace with physical sciences. In 1966 Berkeley was recognized by the American Council on Education as "the best balanced distinguished university in the country."

For historical resources about Berkeley, see the Appendix and the marginal notes on pages 50-52.

**The Berkeley Campus**

South Hall, the oaks along Strawberry Creek, and the eucalyptus grove link Berkeley to its beginnings over a century ago. While the campus has grown considerably since then, it has retained much of the tranquil beauty of its rural past and is now a park-like oasis in an urban setting. Students study, work, and relax among Neoclassical buildings, wooded glens, and parklands spread across 1,232 scenic acres overlooking the San Francisco Bay.

With 31,000 students, a distinguished faculty, nearly 300 degree programs, and alumni in positions of national and international leadership, Berkeley today is a large and complex institution, offering students a vast range of scholarly endeavor and a wide arena for personal growth.

The campus is surrounded by wooded, rolling hills and by the city of Berkeley (population 106,500), "the Athens of the 20th century." Berkeley has a long history as one of America's most lively, culturally diverse, and politically adventurous cities. The surrounding San Francisco Bay Area offers culture, entertainment, and natural beauty without rival, much of which is accessible by BART (Bay Area Rapid Transit).

All of Northern California, with its great variety of cultural and recreational opportunities, is within easy reach. San Francisco is just over the bridge; the wine country and the Point Reyes National Seashore are a short drive north; the Monterey Peninsula and Big Sur, a short drive south; and Lake Tahoe, the Sierra Nevada mountains, and Yosemite National Park are close enough for weekend skiing and backpacking trips.

**Tradition of Excellence**

Berkeley is internationally noted for its academic excellence. Its faculty includes 7 Nobel laureates, 120 members of the National Academy of Sciences, 76 members of the National Academy of Engineering, and more NSF Young Investigators than there are at any other university in the country. In national surveys, Berkeley’s academic departments consistently rank among the top five in the country.

By any standard, Berkeley ranks as one of the world's leading intellectual centers, renowned for the size and quality of its libraries and laboratories, the scope of its research and publications, and the distinction of its faculty and students. More students who earn bachelor's degrees at Berkeley complete Ph.D.'s than graduates of any other university in the country.

**Superior Research**

The range of research projects at Berkeley is varied, reflecting the diversity of disciplines represented. The campus provides a distinctive environment in which faculty and students seek to expand fundamental knowledge of human nature, society, and the natural world.

---

**A Campus Chronology**

1855: A private institution called the College of California is incorporated in Oakland.

1860: The College of California opens its doors in Oakland to 10 freshmen.

1866: The trustees of the College of California vote to name the new town that will surround the college at its permanent site after Irish clergyman and philosopher George Berkeley.

1868: The governor signs a bill by which the College of California will disincorporate and become the core of a state-supported University of California. March 23 is thereafter celebrated as Charter Day of the University.

1869: The University begins instruction of 38 male students in Oakland.

Henry Durant named first president of the University.

1870: Regents vote to admit women to the University on equal terms with men. Seventeen women register.

1871: The first Greek letter society established at the University is the Iota chapter of Zeta Psi.

1872: Founding of the University Alumni Association, later renamed the California Alumni Association.

1873: Twelve young men, thereafter known as "the 12 apostles," receive the first diplomas of the University. First classes open at Berkeley.

(continued on next page)

At the turn of the century, there were four University buildings at Berkeley (from left): North Hall, Mechanic Arts Building, Bacon Hall, and South Hall. Only South Hall remains.
1887: The Associated Students of the University of California is formed to resolve conflicting interests of numerous student societies.

1905: The University purchases a collection of western American and Spanish-American historical materials from Hubert Bancroft, and founds the Bancroft Library, now one of the world’s outstanding collections.

1912: Doe Library is dedicated.

1913: Sather Gate, one of the campus’s principal landmarks, is completed.

1914: The Jane K. Sather Tower, more popularly known as the Campanile for its resemblance to the campanile of St. Mark’s Plaza in Venice, takes its place as Berkeley’s chief landmark.

1929: The first residence hall for students, Bowles Hall, opens. It was funded by private gifts.

1930: International House, one of four worldwide funded by John D. Rockefeller, opens at Berkeley.

1931: Ernest Lawrence and Stanley Livingston conduct on campus the first successful operation of a cyclotron.

1941: Professors Glenn Seaborg and Edwin McMillan and two colleagues discover plutonium in experiments conducted in Gilman Hall.

Research programs at Berkeley are conducted within teaching departments and organized research units (ORUs). The latter are established and administered separately from the teaching units. ORUs are interdisciplinary in nature and are organized around the work of a group of faculty and graduate students whose research interests transcend traditional disciplinary boundaries. They do not offer courses of instruction or degrees, although several work in conjunction with interdepartmental instruction programs which lead to bachelor’s or advanced degrees. ORUs provide invaluable experience for graduate students in basic and applied research and greatly enhance Berkeley’s educational program and the overall academic quality of the University.

Please see the Appendix for a listing of the campus ORUs.

Commitment to Teaching

Every year, the Berkeley campus honors several of its outstanding faculty members by presenting them with the Distinguished Teaching Award. More than 190 faculty members in 47 departments have been recognized in this way for their outstanding teaching. (Recipients of Distinguished Teaching Awards have daggers by their names in the “Courses and Curricula” section of this catalog.)

At a large institution often known more for its research, such recognition serves to remind us all of the importance of teaching and the value we place on it. Students who attend Berkeley have the benefit of learning from world-renowned theorists and researchers who are also often distinguished teachers. Recipients of past awards have pointed out that their research is often enhanced by the questions and responses of their students in the classroom, while at the same time, the excitement of generating new ideas and discoveries in research stimulates them to become better teachers.

Good teachers do more than convey knowledge in a field. They clarify for students the relationships between their subject and other fields of knowledge; they ignite in their students a desire to learn; and as a consequence they often have a life-long impact on their students’ lives and careers.

Good teaching is, of course, not limited to the people who have received Distinguished Teaching Awards. Every year, many departments nominate one or more of their faculty as distinguished teachers. You will encounter excellent teachers in all departments, all disciplines, in large classes and in seminars.

There is no one way to teach well; the styles you will encounter will be as varied as the courses you take, from eye-opening lectures to discussion sections in which you will clarify and define your own ideas. In teaching, as in every aspect of Berkeley, diversity is the key to a rich and challenging educational experience.

Student Diversity

The quality of Berkeley’s student body complements the stature of its faculty. Most students are Californians, but nearly every state and 100 foreign countries are represented. The student body can best be characterized by its diversity: more than half of the students are minorities, helping to produce the wide range of opinion and perspective essential to a great university. Many programs, such as African American, Asian American, Chicano, and Native American Studies, reflect the diversity, as does the opportunity students have to design their own major if their interests do not match any of the 100 majors offered.

Organization and Administration

The University of California

The University of California comprises nine campuses, each with a distinctive character. The San Francisco campus was added to the University in 1873, the Los Angeles campus in 1919, Riverside in 1954, Santa Barbara in 1958, San Diego and Davis in 1959, and Santa Cruz and Irvine in 1965. The campuses have three law schools, five medical schools, and schools of architecture, business administration, education, engineering, and many others.

The nine campuses have a full-time faculty of about 7,200 and the total enrollment is about 170,000 students, most of them California residents. Nearly one quarter are graduate students. Some 480 laboratories, extension centers, and research and field stations strengthen teaching and research while providing public service to California and the country.

Administration

Under the State Constitution, the government of the University is entrusted to the Board of Regents. The regents appoint the president of the University, and with the president’s advice, appoint the chancellors, directors of major laboratories, provosts, and deans who administer the affairs of the individual campuses and other divisions of the University. Authority in academic matters is delegated by the regents to the Academic Senate, which determines academic policy for the University as a whole.

The Board of Regents includes seven ex officio board members and 18 members who are appointed by the governor for 12-year terms after consultation with an advisory committee. In addition, the regents appoint a student regent for a one-year term as a voting board member with full rights of participation. The chair and vice chair of the Academic Council serve as faculty representatives to the board and participate fully in all
discussions. A constitutional amendment provides that “Regents shall be able persons broadly reflective of the economic, cultural, and social diversity of the State, including ethnic minorities and women.” They shall have “full powers of organization and government, subject only to such legislative controls as may be necessary to ensure compliance with the terms of the endowments of the University and the security of its funds.”

The president is executive head of the nine-campus University system. The Office of the President, located in Oakland, is the University’s central administrative headquarters. There are six vice presidential divisions—Academic Affairs, Business and Finance, Agricultural and Natural Resources, University and External Relations, Health Affairs, and Clinical Services Development. The Office of the President performs administrative functions for the University as a whole and supports all campus operations.

Each of the campuses has a chancellor as its chief administrative officer. The chancellor is responsible for the organization and operation of the campus, including academic, student, and business affairs. For the names of University regents, officers, and chancellors, see the Appendix.

The Academic Senate, consisting of faculty and certain administrative officers, determines the conditions for admission and degrees, subject to the approval of the regents; authorizes and supervises courses and curricula; and advises the University administration on the important matters of faculty appointments and promotions and budgets.

Students participate in policy-making at both the campus and Universitywide levels.

Colleges and Schools

The Berkeley campus is divided into 14 colleges and schools, most of which are subdivided into departments. Colleges accept students directly from high school or as transfers from other institutions and offer undergraduate instruction, normally as a four-year program, leading to the bachelor’s degree. Schools usually begin instruction at the upper division level and provide students with preparatory training for specific professions.

Each of the colleges and schools has its own regulations for earning degrees and is headed by a dean who has final authority for all academic decision making. Students are encouraged to contact the deans for assistance with academic matters.

1952: Clark Kerr, professor of industrial relations, is named Berkeley’s first chancellor, with responsibility for all but Universitywide policies. Kerr later becomes president of UC.

1961: The UC Regents name a fountain on Sproul Plaza after a German short-haired pointer named Ludwig van Schwanenberg, who had played in it daily. A new student union opens, now called the Martin Luther King, Jr., Student Union.

1964: Students demonstrate against rules that prohibited certain political activities on campus, actions that later become known as the Free Speech Movement.

1969: A student strike in support of establishment of an independent Third World College and protests over use of a three-acre plot later called People’s Park convey an image of Berkeley that is still strong in the public mind.

1987: Michele deCoteau, senior in engineering, is first Berkeley woman to be selected as a Rhodes Scholar.

1988: For the first time at Berkeley, and probably at any academically top-ranked U.S. university, no ethnic group forms a majority among the undergraduate student body.

(continued on next page)
1989: Berkeley faculty approves the American Cultures requirement that requires students to take a course that examines the experiences in and contributions to American culture of a mixture of ethnic groups. Faculty call it the “great educational experiment of the 1990s.”

1990: Berkeley’s “Keeping the Promise” capital campaign ends, having raised more money—$470 million—than the campaign of any other public university.

1992-93: Celebration of the 125th anniversary of the founding of the University of California.

1995: Chancellor Chang-Lin Tien launches the Berkeley Pledge, an ambitious outreach effort to help a greater number of disadvantaged Bay Area youngsters become eligible for a UC education.

1996: Campaign for the New Century, which seeks to raise $1.1 billion by the year 2001, sets the most ambitious fund-raising goal in history for a public university.


Academic Resources

The University Library

Berkeley's library system contains one of the best research collections in the country. The system consists of Doe Library, Moffitt Library, the Main Stacks (underground), the Bancroft Library which houses rare books and western Americana, and 18 branch libraries serving particular academic disciplines. The Teaching Library promotes information literacy and academic success by teaching students and faculty how to use a wide range of information resources—print, online, and networked—now available in the library. The library's collections and services are complemented by a variety of special purpose or "affiliated" libraries on campus. The holdings of the University library system include more than 8 million book volumes, 90,000 current serial publications, 5 million microform items, 400,000 maps, 60,000 sound recordings, 6,000 videos, and hundreds of thousands of government documents.

Located at the north entrance of Doe Library, first floor, the Information Center houses over 40 Library Information System computer workstations featuring the library's online catalogs, Internet access, and other electronic resources. The Information Center also contains a print collection of approximately 5,000 reference sources with a special focus on humanities and social sciences.

Most of the Berkeley humanities and social sciences materials are located in Moffitt Library and the Main Stacks. Moffitt Library, with its 160,000 volumes and 500 serial titles, is designed as a core collection and an entry point for new and undergraduate students. Special collections in Moffitt include reserve texts assigned in undergraduate courses and a file of course exams. Access is limited to card holders, including UC faculty, students, and staff.

The Media Resources Center on Moffitt’s first floor provides spoken word and visual image material on a wide variety of subjects for student research and class reserves. The center also houses audio and video cassettes, slides, computer software programs, and the equipment to use these materials.

The Moffitt Microcomputer Center, also located in Moffitt Library, offers personal computing and consulting services to Berkeley students, faculty, and staff.

The Main Stacks, a four-story underground addition connecting Doe and Moffitt libraries, houses the humanities and social science research collection formerly located in Doe Library. The Main Stacks may be entered through either Doe or Moffitt Libraries. The Governmental/Social Science Information Service, located on the second floor of Doe Library, takes the place of the former Government Documents Department.

The Bancroft Library, devoted primarily to the documentation of western North America, maintains the largest collection of Mark Twain archives in the world. The East Asian Library contains rare editions of early manuscripts, scrolls, woodblock and engraved maps, stone rubbings, and bronze inscriptions. Special collections elsewhere in the library system include some of the rarest books and illuminated manuscripts in the world.

As a student you are entitled to use the libraries upon presentation of your current Berkeley student photo ID card. Borrowing privileges and access to the collections vary from unit to unit. Orientation tours are scheduled throughout the year, and library staff are available to help you at various information and reference desks. The library’s services are described in the leaflets available at many central points and branch libraries.

For information about the campus libraries or help in using the online catalogs, ask at the Information Desk in Doe Library (643-9999). For tours, small group sessions on catalog use, and classes on a wide range of information resources, contact the Teaching Library in Moffitt (643-9959) or one of the subject-oriented branch libraries.

A cooperative program between the university libraries of Berkeley and Stanford provides convenient interlibrary services to faculty and graduate students. Together the two libraries have more than 13 million volumes, a combined research collection that is one of the richest in the world.

Affiliated Libraries

The library system also includes 15 affiliated libraries that contain specialized research collections of unique and often difficult-to-locate materials associated with organized research units, academic departments, and professional schools at Berkeley. These libraries primarily serve the teaching and research needs of faculty and staff, although many of them also serve the campus community at large and the general public.

Studying Abroad

Both undergraduate and graduate students may earn University credit while studying abroad at some 115 study centers around the world. See the studying abroad sections in the chapters on undergraduate education (page 45) and graduate education (page 66).

Lawrence Hall of Science

The Lawrence Hall of Science is both a public science center and a research unit in pre-college science and mathematics education. LHS programs are designed to involve participants actively in science and math explorations. Visitors participate in interactive planetarium shows, conduct do-it-yourself experiments and observations in the biology laboratory, and explore myriad other exhibits on everything from dinosaurs to lasers. LHS also offers public lectures; science and general interest videos; numerous special events; work-
shops for school groups and after-school classes in biology, chemistry, physics, astronomy, computers, robotics, and math; and summer science camps.

Science curricula developed at LHS are used throughout the world. Teacher-training workshops actively involve participants in curriculum development. LHS is open daily from 9 a.m. to 5 p.m. There is an admission fee. UC Berkeley students are admitted free after 2 p.m. on weekdays. Transportation to and from LHS is available on a shuttle bus on weekdays, excluding UC holidays. For more information, call 642-5132 or send e-mail to lhsinfo@uclink.berkeley.edu. You can also visit LHS on the World Wide Web at http://www.lhs.berkeley.edu.

Phoebe Hearst Museum of Anthropology
Facilitating scholarly research and educating undergraduate and graduate students are among the primary functions of the Phoebe Hearst Museum. The museum also sponsors changing exhibits and programs in its exhibit hall to meet the varied educational and aesthetic interests of the University community and general public. There are more than four million objects in the museum’s holdings. Among these are major collections of ethnographic and archaeological objects from California and archaeological collections from ancient Peru and Egypt. The exhibit hall is open Wednesday through Sunday from 10 a.m. to 4:30 p.m. and until 9 p.m. on Thursday. Admission is free for museum members, UC students, staff, and faculty, and free to the public on Thursdays. The museum is closed on holidays and is wheelchair accessible. For further information, please call 642-3681 or 643-7648.

Berkeley Language Center (BLC)
Dedicated to the support of language instruction, the BLC offers a wide array of services, including a pedagogy library, a lecture series each semester on the methodology of second language instruction, and the Language Media Center (LMC). The LMC provides an audiotape lending library, listening and viewing facilities, a language microcomputer laboratory/classroom, a multimedia development laboratory, an audio recording studio, a tape duplication service, video cameras, and projection equipment. The LMC houses an extensive collection of audiotapes, including language instruction in 100 languages and archival collections of linguistic fieldwork and noteworthy University speeches and events. For further information call 642-0767, or visit our Web site at http://www.itp.berkeley.edu/blc/newpages/

Summer Sessions
More than 500 courses in 80 academic disciplines are offered in the summer. Students in good standing at any UC campus or at other colleges or universities are eligible for enrollment. Summer study is also open to adults willing to commit to a serious course of study, and to high school juniors and seniors. Students can earn credit while studying abroad by enrolling in Summer Sessions’ international programs.

All Summer Sessions courses are taught by both regular and visiting faculty. A single registration fee each summer enables students to take classes in as many sessions as they wish. Additional course fees vary with the number of units taken. For more information, visit the Web site at http://www-summer.berkeley.edu.

Exchange and Cross-Registration Programs
Undergraduate students may participate in cross-registration programs with Mills College; Sonoma State University; San Francisco State University; California State University, Hayward; College of Holy Names; Dominican College; and JF Kennedy University. In addition, UC Berkeley students may attend a class each semester at any one of the campuses of the California state university or community college systems. Graduate students may participate in exchange programs with other University of California campuses, Stanford University, the Graduate Theological Union, and a number of colleges and universities that participate in the Exchange Scholar Program. See the exchange and cross-registration program sections in the chapters on undergraduate and graduate education.

University Extension
• UC Berkeley Extension is the continuing education branch of the University, linking the campus to the community. It ranks among the top half-dozen university-level programs in the nation in size, scope, and the quality of instruction. A self-supporting unit of the University, Berkeley Extension offers more than 3,000 courses each year in most of the University’s

CAL Quiz
No. 2
What do the carved plaques on the upper walls of South Hall represent?
(Answer on page 456.)

Carved wooden Alaskan Eskimo mask with anthropomorphic face in center, possibly from the Nushagak area. Photo courtesy of the Phoebe Hearst Museum of Anthropology.
The University Research Expeditions Program (UREP) allows students, staff, and members of the general public to join domestic and foreign field research projects sponsored by the University. Participants help with projects such as wildlife habitat studies, botanical collecting expeditions, ethnographic field work, ecological surveys, fossil excavations, historical studies, and the like.

Some of the projects planned for 1999, each approximately two to three weeks in duration, allow you to:

- Excavate medieval churches in Ireland; Mesolithic sites in Germany; ancient village settlements of Lake Titicaca; and a Moche ceremonial site in coastal Peru.
- Study ceremonial arts in Thailand and Laos.
- Work to preserve ecosystems in Costa Rica, California, Ecuador, and Indonesia.
- Track pelicans in Baja California, whales in Canada, and degus in Chile.
- Conduct geological surveys in the Great Basin.

For further information, call (510) 752-6692.

UREP volunteers work on an archaeology project on the Cape Verde Islands.

fields of study. The evening, daytime, and weekend courses offer opportunities to earn college credit, pursue intellectual and cultural interests, keep abreast of current research, prepare for career advancement, and examine critical issues in society. For students seeking a planned sequence of study, Extension offers 30 multi-course certificate programs in fields such as telecommunications, engineering, marketing, graphic design, and alcohol and drug abuse studies.

While courses are open to the public, most Extension students already have bachelor’s degrees, and many have advanced degrees. Instructors are drawn from the campus, the business world, the arts and sciences, and the professions. The average 10-week, 30-hour course costs around $400.

Berkeley Extension courses are held at locations around the Bay. Extension also offers a nationwide seminar series; a travel/study program, including a summer program at Oxford; residential programs and short courses for international students; custom-designed contract training programs; and more than 80 online courses.

The Fall Program for Freshmen, offered through Extension and designed in cooperation with the College of Letters and Science and the College of Engineering, provides a liberal arts curriculum each fall for 500 freshmen admitted for the following spring semester. The program enables these new students to complete the full academic year of study.

Many Berkeley campus courses in regular session are also open to nondegree students through an Extension enrollment option called concurrent enrollment. The consent of the instructor and the department chair (and in some cases the dean of the school or college) are required, and enrollment for credit is optional. You may obtain full details and an application form from Extension’s registrar.

For more information, call 642-4111; visit the online catalog at www.unex.berkeley.edu/unex, or write to UC Berkeley Extension, 1995 University Avenue #7000, Berkeley, CA 94720-7000.

Cultural and Recreational Resources

The University of California, Berkeley Art Museum and Pacific Film Archive (BAM/PFA)

The University of California, Berkeley Art Museum, located at 2626 Bancroft Way (near College Avenue), is the major visual arts museum serving the University community. Facilities include galleries, a fine arts bookstore, a sculpture garden, a cafe, and a film theater and film library. Gallery hours are 11 a.m. to 5 p.m. Wednesday through Sunday and 11 a.m. to 9 p.m. Thursday. Admission to gallery exhibitions is free for
Berkeley students. For a taped message about exhibits, call 642-0808; for a taped message about the Pacific Film Archive program, call 642-1124. To reach Pacific Film Archive offices, call 642-1412, Monday through Friday, 9 a.m. to 5 p.m.

The museum annually offers about 15 exhibitions; some are nationally circulating and others originate at the museum. A permanent collection of Western and Asian art is on display on a rotating basis. The MATRIX program is a changing exhibition of contemporary art.

Special study collections are available to students and faculty, works in storage are made available for study upon request, and various exhibitions are prepared for and by University classes and seminars. In addition, the museum has an internship program in which advanced students receive practical experience by assisting in museum work. Lectures on art by artists and art historians are regularly held.

The museum’s film department, the Pacific Film Archive (PFA), is one of the major film exhibition centers in the country, offering programs of international cinema to the public each evening. PFA maintains a study collection of 7,000 prints and 4,000 books and provides a media information service and facilities for both film study and research screenings.

Music, Dance, Drama

The University offers a broad variety of activities in the arts and humanities. These include:

Music—Students may enroll in a variety of student performing groups for credit through the Department of Music, 104 Morrison Hall (642-2678); auditors are also welcome in most groups. The African Music Ensemble, Chamber Chorus, Chamber Music Ensemble, Collegium Musicum, Javanese Gamelan, University Chorus, and University Symphony Orchestra are included; many of these groups give concerts every semester. The Department of Music also presents free noon concerts on Wednesdays in Hertz Hall. Extracurricular musical groups are the UC Jazz Ensemble (642-5062), the Cal Marching Band (642-6704), and Student Musical Activities—Vocal (642-3880).

Theater and Dance—The Department of Dramatic Art/Center for Theater Arts offers many opportunities for students interested in theater and dance. Credit is offered for all aspects of participation in a variety of productions in the Zellerbach Playhouse, Durham Studio Theater, and 7 Zellerbach Hall: acting, dancing, directing, designing, stagecraft, and choreography. For information, please call 642-1677.

The Student Union Program, Entertainment, and Recreation Board (SUPERB) is a student-run entertainment production company that produces a wide range of events, including the Berkeley Film Series in Wheeler Auditorium, concerts in The Bear’s Lair and on Lower Sproul Plaza, annual chess tournaments in Pauley Ballroom, free sneak previews, special events, and more. All students are welcome to get behind the scenes of SUPERB events. SUPERB is a part of the ASUC (Associated Students of the University of California). For more information, contact SUPERB at 10 Eshelman Hall, 642-7477, or visit the SUPERB Web site at http://www.asuc.org/superb.

Cal Performances—a year-round program of world-class, professional music, dance, and drama presentations. Registered Berkeley students receive a half-price discount and S5 student rush tickets, as available. Berkeley faculty and staff receive a S2 discount. For information or reservations, call 642-9988.

Physical Education, Sports, and Recreation

Each year more than half the Berkeley student body regularly uses the campus physical education, sports, and recreation facilities. The campus has four gymnasia; five swimming facilities; two weight rooms; squash, handball, racquetball, and tennis courts; a martial arts room; and two 440-yard tracks. The atrium of the Recreational Sports Facility (RSF) houses many cardio machines, including Precor cross-trainers, treadmills, stairmasters, bicycles, rowing machines, and more. Registered students can use these facilities free of charge during the academic year.

The Physical Education Program offers physical activity classes to students in aquatics, sports, dance, combatives, and exercise. Instruction is directed toward improving performance skills, learning about personal wellness and fitness, and developing and maintaining physical fitness. Elementary and intermediate classes are provided in many activities, and advanced classes are offered in certain areas. All classes offered by the Physical Education Program are for credit and are open to all students. (See the Schedule of Classes for specific classes each semester.) For further information, consult the program office at 200 Hearst Gymnasium.

The Physical Education Program also offers physical fitness assessments and exercise prescription in its Fitness Evaluation Laboratory as a service to the campus community. For information, visit the Web site at http://pe.berkeley.edu/fitlab.

The Department of Intercollegiate Athletics and Recreational Sports offers a wide range of leisure and competitive activities. The CalFIT (Fitness, Instruction, and Training) program allows members of the campus community to participate in a wide variety of noncredit classes, among them Capoeira, dancing, massage, yoga, water exercise, tennis, strength training, and more. The Optimal Health Center offers massage therapy and nutritional counseling appointments.

CalSTAR (Sports, Training, and Recreation) assists disabled users who are interested in recreational programs. We offer volunteer assistants as well as equipment. Cal Intramurals offers Berkeley students, staff, and faculty a diverse range of organized team and individual sports on a competitive or recreational level, as well as job opportunities through officiating.

CAL Quiz
No. 3

What were some of California Governor Newton Booth's hopes for the University's impact on humanity when he spoke to the first graduating class of 12 students ("the 12 Apostles") in 1873?

(Answer on page 456.)
Universities love competition, and not simply in sports. The real heart of the competition lies in academic things—libraries, laboratories, impressive buildings, distinction of faculty... I remember a Big Game not long after the war, Stanford was beating Cal decisively at Berkeley and the Cardinal rooting section was pouring it on. A man just behind me got up and shook his fist at the Stanford section, shouting, “We got the Mark Twain Papers,” an event that had happened only a week before.

—Robert Nisbet

Teachers and Scholars: A Memoir of Berkeley in Depression and War, 1992

Cal Sport Clubs offer Cal students, staff, faculty, and alumni national and international competitions, recreation, and instruction in 25 sports.

Cal Rec Club is a membership program that is free to Berkeley students during the academic year and available for a fee during the summer. Full membership includes use of the RSF, which features an Olympic-size swimming pool; weight room and cardiovascular machines; courts for squash, handball, racquetball, volleyball, basketball, and badminton; a Jacuzzi; and table tennis. Full members may also use the swimming pools at the Hearst Gymnasium, the Clark Kerr campus, and Strawberry Canyon. SHAPE UP! offers drop-in aerobics and fitness classes including step, low-impact, fitness boxing, and more. One-on-One Personal Fitness Training provides individual consultation with a highly qualified fitness trainer who best suits your needs, limitations, and aspirations. For more information, visit the Web site at http://calbears.berkeley.edu.

Cal Adventures is Berkeley’s outdoor recreation program, offering a wide variety of classes and outings in activities such as backpacking, rock climbing, sea kayaking, white-water rafting, wilderness first aid, outdoor photography, windsurfing, sailing, and rowing. A complete line of rental equipment, including sleeping bags, tents, and stoves, is available at affordable prices. The program is open to the community as well as to students, alumni, faculty, and staff. Cal Adventures offers a large selection of student-only trips and classes. These are low-cost outings designed to assist Cal students in these times of rising student fees. A few locations Cal Adventures frequents are Yosemite National Park, Lake Tahoe, the San Francisco Bay, and the High Sierra. Facilities include an aquatic site at the Berkeley Marina, and the Recreational Sports Facility, 2301 Bancroft Way. Office hours are Monday through Thursday, 11 a.m. to 6 p.m., and Friday, 11 a.m. to 7 p.m. For more information about Cal Adventures and a free brochure, please call 642-4000 or write to Cal Adventures, 5 Haas Clubhouse #4430, Berkeley, CA 94720-4430.

Other Resources

Computing on Campus

The Berkeley campus provides access to a full range of distributed computing capabilities, from individual workstations to large shared computers. Supported computers include Apple Macintoshes, PCs, and central academic servers.

Most of the campus’s computers and workstations are connected to the Internet, which also provides access to the MELVYL and GLADIS online library systems, the UC Berkeley World Wide Web server at http://www.berkeley.edu/, and other online information resources. The campus offers dial-up access to campus computers and the Internet. See Accessing the Network Remotely, http://www.net.berkeley.edu/dcn/remote/.

The UCLink service provides campuswide access to electronic mail; see the Web site at http://www-uclink.berkeley.edu/. For information on how to access UCLink and other general-purpose computers, contact User & Account Services, 642-7355, accounts@uclink.berkeley.edu.

The interactive computer-based Tele-BEARs system allows students to register for classes using the World Wide Web or a touch-tone telephone. The companion Info-BEARs system provides access to registration and class information. Bear Link (http://bearlink.berkeley.edu) is a gateway to student information on the Web.

Computing facilities provide access to Macintoshes, PCs, UNIX workstations, and printers. Facilities at 349 Davis Hall, 2103 Valley Life Sciences Building, 1535 Tolman Hall, B-21 Dwinelle Hall, B-3 Evans Hall (Calculus Lab), and 212 Wheeler Hall are primarily for use by scheduled classes. Others at 2105 Valley Life Sciences Building, 175 LeConte Hall, B-3 Dwinelle Hall, 352 Moffitt Library, 211 Wheeler Hall, and B-3 Evans Hall are available for drop-in use when they are not being used for instruction. Call 643-6253 for recorded information or see the Web site at http://www.berkeley.edu/facility/. The Instructional and Collections Computing Facility (ICCF), 2224 Pied-
Botanical Garden

The Botanical Garden was established in 1890 and transferred to its current 34-acre location on Centennial Drive (Strawberry Canyon) in the 1920s. Although relatively small in area, the garden ranks with the world’s leading gardens in the quality and variety of its plants. There are over 13,000 different species, and something is in flower every day of the year.

Arranged geographically, the major collections include the Californian, Asian, South African, Mediterranean, South American, Australasian, North American, Mexican and Central American, and New World Desert. Additional special collections include cacti and succulents, carnivorous plants, ferns, medicinal herbs, heritage roses, palms and cycads, and economically important species.

The garden offers tours to the public every Thursday, Saturday, and Sunday at 1:30 p.m. Special group tours may be arranged for a nominal charge by calling 642-3352. The conference center and redwood grove are available for weddings and other special events by calling 642-3352. The garden has three plant sales annually, as well as plants for sale daily at the Garden Shop. The garden is open to the public daily except Christmas from 9 a.m. to 4:45 p.m. The Garden Shop is also open daily from 10:30 a.m. to 4:30 p.m. Admission fees: adults $3, seniors $2, children 1-18 $1; UC students free. Thursdays are free for everyone.
Annual passes are available. A shuttle bus provides transportation to and from the garden, and parking (for a fee) is available. For shuttle information, call 642-5145.

The California Alumni Association

Founded in 1872, the California Alumni Association (CAA) is the fourth largest membership alumni association in the world. Its aim is to serve both students and alumni while supporting the University.

The Student Alumni Mentor Program offers current Berkeley students an opportunity to connect with alumni volunteers for guidance and support on academic and social issues. A similar program, Bear Connections, makes alumni available for career advice, informational interviews, and networking.

CAA’s network of student-run programs offers leadership experience and career, social, and community-service opportunities. Cal-in-the-Capital and Cal-in-Sacramento provide students with summer internships in Washington, D.C., and Sacramento. The Class Councils are service groups made up of sophomores, juniors, and seniors. The Alumni Scholars Club sponsors social and community-related events throughout the year.

CAA’s Alumni Leadership Scholarship Program annually awards approximately $900,000 to some 900 undergraduates who demonstrate strong extracurricular leadership skills. In fall 1999, the California Alumni Association introduces the CAA Achievement Award, a financial award for selected entering students who have participated in UC-affiliated outreach programs.

Beyond the campus, the California Alumni Association is the primary vehicle to keep alumni connected to Berkeley. Currently, over 88,000 alumni are CAA members. Members receive numerous benefits, discounts, and services. The California Alumni Association publishes the California Monthly alumni magazine, operates the Lair of the Golden Bear family summer camp, sponsors Bear Treks educational alumni group travel, co-hosts Homecoming and class reunions, and maintains nearly 120 local alumni clubs throughout the world. Cal alumni look to CAA for career networking and continuing education, social gatherings, and opportunities for volunteer work for their alma mater. Alumni participate in student outreach programs to attract future Berkeley students, interview prospective scholars, raise much-needed funds for CAA programs, and host special events for alumni gatherings around the world.

The California Alumni Association is located on campus in Alumni House. The main information line is 642-7026. CAA’s Student Center, which houses the student programs, is located at 2600 Bancroft Way, second floor; 642-5780. CAA also has a Southern California office in downtown Los Angeles; (213) 624-5060. For more information, see CAA’s Web site at www.alumni.berkeley.edu.

Visitor Services

Visitor Services, located at 101 University Hall at the corner of Oxford Street and University Avenue, provides tours of the campus for individuals and groups. Information about the campus, student services, and the University community as well as student and campus directory assistance is available at 642-INFO or 642-5215. You may also visit the office or the Berkeley Web site at www.berkeley.edu.

Campus tours start at Visitor Services Monday through Friday at 10 a.m. Weekend tours at 10 a.m. Saturday and 1 p.m. Sunday begin at Sather Tower, popularly known as the Campanile, a clock tower in the center of campus. There is no charge for these 90-minute walking tours conducted by trained student tour guides. While classes are in session, a tour of a residence hall is also available Monday through Friday following the campus tour.

Special group tours may be arranged by calling 642-5216 at least two weeks in advance. There is a small charge for groups not related to schools.
Student Life

Football players on Andrew Latham Smith Memorial Bench, Memorial Stadium, February 1928.
The University of California, which celebrated the 125th anniversary of its founding in 1993, has a singular place in American higher education—in terms of its history, its beneficial roles within the state and beyond, and its influence as a model for achieving both quality and quantity in its programs. Some would point out other singularities as well, such as the pronounced tendency for the University of California to become a testing ground at the leading edge of new intellectual and social trends.

—Glenn T. Seaborg, 1912-1999

### Student Life

This section offers general information about student life on the Berkeley campus and brief summaries of some of the services and organizations available, arranged in alphabetical order. You may obtain more information from the appropriate office or from Resource, the student handbook.

#### Academic Partnerships for Excellence (APEX)

Academic Partnerships for Excellence (APEX) is an array of five academic and personal support services offering tutoring, advising, advocacy, and support to students at UC Berkeley. Located in the César Chavez Student Center on lower Sproul Plaza, these services are aimed at enhancing the academic development of students by providing the support and assistance necessary to help students achieve academic success. The services within APEX are:

- The Student Learning Center
- The Re-entry Students' Program
- Student Life Advising Services
- Academic Services for Student Athletes
- Disabled Students' Program

These units are discussed in alphabetical order on the following pages.

#### Academic Services for Student Athletes

Academic Services for Student Athletes, located in 128 César Chavez Student Center, offers academic support and advising for Berkeley's student athletes. Services are geared to ensuring academic achievement through tutoring, study tables, computer labs, and staff advisers. For more information, call 642-8402 or visit the Web site at www.aps.berkeley.edu.

### The ASUC

The Associated Students of the University of California (ASUC) is the official organization of Berkeley students. Membership in the ASUC is voluntary, although all students must pay the ASUC fees. This non-profit organization, through its student-elected senate, is responsible for directing a large variety of student activities and serves as the official student spokesperson in University affairs. Graduate students also elect departmental representatives to the Graduate Assembly, which meets regularly in Anthony Hall. The ASUC also provides a wide range of programs and activities. Each year, roughly $600,000 is distributed to student activity groups, including associations, ethnic and cultural groups, and sports. The ASUC, moreover, sponsors vital programs such as student advocacy (642-6912), the Student Legal Clinic (642-9986), Renters' Legal Assistance (642-1755), and the Student Union Program, Entertainment, and Recreation Board (SUPERB) (642-7477).

The basic goals of the ASUC are to enhance the quality of life for both students and the community, as well as to increase the avenues for student participation in education and campus operations. Other important goals of the ASUC are to protect full freedom of assembly and expression in the University community and to facilitate academic and social responsibility.

### Career Center

The Career Center educates undergraduate and graduate students about the career planning process, job searches, and graduate and professional school strategies and promotes linkages among students, employers, alumni, and graduate and professional schools. The center serves as a comprehensive information resource for all career and employment opportunities. The major components of the Career Center are career counseling, employment services, information services, letter services, graduate and professional school programs, Cal connections, employer relations and recruiting, and alumni career services.

The Career Center provides a variety of events to enable Berkeley students to connect with employers and graduate program representatives. Some highlights are:

- Career Week (over 40 programs including a variety of employer panels providing insights about various career fields)
- Externships (short, shadowing opportunities with employers)
- Career, internship, summer job, and graduate school fairs at which representatives meet with students
- Recruiting (employers visit the Berkeley campus to interview graduating students for positions)

For more information, including access to job and internship listings (part-time, summer, and full-time), Information Lab resources, and our calendar of activities, consult our Web site at http://career.berkeley.edu.
The Career Center is located at 2111 Bancroft Way, between Fulton Street and Shattuck Avenue. Hours are 9 a.m. to 5 p.m., Monday through Friday. Call 642-1716 for more information.

See page 46 for more information on internships.

Child Care

The Child Care Program is available to full-time registered Berkeley students and provides care for children aged three months to seven years as of the first day of fall classes in a given academic year. To be eligible, at least one parent must be a registered Berkeley student; the other parent, if not a Berkeley student, must be employed or attending a degree-granting institution. Priority is given to currently enrolled children; next, to families based on gross income (lower income admitted before higher income). Each family is asked to contribute two hours of parent participation per week. There are four centers, each open from 9 a.m. to 5:15 p.m. Fees are based on a sliding scale depending on gross monthly income and family size. For information and an application (the fall deadline is June 1), contact the Child Care Services office, 2537 Haste Street #4840, Berkeley, CA 94720-4840, 642-1827.

Clubs

Special Interest Clubs

Besides regular ASUC-sponsored activities, there are more than 350 registered student organizations on campus serving special interests and needs. Student groups include academic and professional, ethnic and cultural, political and social action, recreational, religious, and service-oriented organizations, as well as student publications. At the beginning of the fall semester, an activities fair is held in Sproul Plaza to acquaint you with many of the organizations and to give you an opportunity to join. A list of registered student groups is available from Student Activities and Services (SAS) in 102 Sproul Hall (642-5171) or on the Web at http://www.uga.berkeley.edu/sas/.

Fraternities and Sororities

Fraternities and sororities offer students an opportunity to make life-long friendships, participate in community service, develop leadership skills and much more. Contact the Interfraternity Council for men (643-6919), the College Panhellenic Association for women (643-6916), or the predominantly African American National Pan Hellenic Council (642-7950). All three groups are located in 102 Sproul Hall. Additional information is available from Student Activities and Services (642-7507) in 102 Sproul Hall.

Honor Groups

Honorary academic societies are open to students of outstanding accomplishment. These multidiscipline honor societies include Honor Students’ Society, Phi Beta Kappa, Prytanean, Mortar Board, Golden Key, Order of Omega (a Greek honor society), Tau Beta Pi (a national society of upper division students in the College of Engineering and in chemical engineering), and various other groups in other disciplines. Most of these groups offer tutoring services. Information on the general groups is available in SAS, 102 Sproul Hall. Contact specific departments for the single-discipline honor societies.
Fun Things to Do

ASUC Art Studio
Classes in photography, video, digital imaging, bookbinding, drawing, painting, ceramics, printmaking; lower level, MLK, Jr., Student Union, 642-3065

Athletics
Recreational Sports Facility (RSF), 2301 Bancroft Way
Cal-STAR (recreation for disabled people), RSF, 643-8031
Court Reservations (tennis, squash, racquetball, handball), RSF, Guest Services Desk, 642-8345

Department of Recreational Sports, RSF, 642-8342
Intramural Sports, RSF, 643-6822
Sports Clubs, RSF, 643-8024
Tickets, Athletic Ticket Office, 642-3277 or 1-800-GO-BEARS

Cal Performances
101 Zellerbach Hall
Box Office, Zellerbach Hall, 642-9988
General Information, 642-0212
Student Committee for the Arts, 101 Zellerbach Hall, 643-6712
Ushering, 101 Zellerbach Hall, 643-6710
(continued on next page)

Office of Student Affairs
The Office of Student Affairs within the ASUC Auxiliary offers fiscal advice and program assistance to more than 150 ASUC-funded student groups. For information call 642-4536.

Community Service Programs
Berkeley is committed to promoting the ethic of public service and encouraging students to participate in community service activities. Through these experiences, students expand their understanding of social issues and develop valuable leadership skills while working on solutions to real-life problems.

To promote the ethic of service, Cal Corps Public Service Center engages Berkeley students in a variety of community service activities that benefit the underserved. Cal Corps has several excellent resources to facilitate the involvement of Berkeley students. For more information on public service or any of Cal Corp’s programs, visit our office at 505 Eshleman Hall, call 642-3916, or visit our Web site at http://uga.berkeley.edu/calcorps.

The following are some of Cal Corps’ programs:
Volunteer Placement Center: The Volunteer Placement Center provides information on 200 Bay Area nonprofit agencies and student service organizations. The following types of opportunities are available: one time/short-term projects, ongoing volunteer positions throughout the academic year and summer, and post-graduation/full-time public service opportunities.

Peace Corps and AmeriCorps Recruiters: Based at Cal Corps, a Peace Corps representative and an AmeriCorps representative provide information on international and national full-time volunteer opportunities.

Student-Initiated Community Projects: Student-Initiated Community Service Projects provides opportunities for students to coordinate and manage their own community service programs. Through joint sponsorship with the ASUC, Cal Corps awards grants to student-initiated service programs dedicated to addressing vital community needs. Cal Corps also offers leadership training, advising, and technical support to assist student leaders in the development and management of their projects.

Service-Learning Courses: Cal Corps combines students’ service activities with an academic component through the following courses:
- Empowering Generation nXt: Seminar on Youth Issues and Action (Ed. 97/98). Through tutoring, reflection sessions, and journals, students will develop the necessary skills to become effective academic mentors.
• Education Through Social Action (SW 98/197). Students select a placement with a nonprofit agency of their choice and learn about the historical role of non-profit and volunteerism in meeting community needs.

AmeriCorps: In partnership with the School of Education’s Service-Learning Research and Development Center, the City of Berkeley, ACCORD for Youth, and the Berkeley Unified School District, Cal Corps strives to involve Berkeley students in community service through AmeriCorps, President Clinton’s National Service Program. The AmeriCorps Program at Cal Corps is a service-learning project that strives to address the academic needs of under-served youth. It also enhances the educational experiences of Cal students, who tutor over 100 youths for three to six hours per week for one academic year. Interested students must apply each spring.

CALPIRG
The California Public Interest Research Group (CALPIRG) is an independent, nonprofit corporation established by Berkeley students for research and advocacy of environmental and consumer issues. Students propose and conduct CALPIRG projects with the aid of professional staff, and policy is set by a non-partisan student board of directors. The CALPIRG office is in 303 Eshleman Hall, 642-7313.

Disabled Students’ Program
The Disabled Students’ Program (DSP) is located at 230 César Chavez Student Center, 642-0518; TTY/TDD, 642-6376. If you have a permanent disability, chronic illness, or temporary injury, you can receive academic support services (such as readers, notetakers, sign language interpreters), attendant referral, emergency transportation, assistive technology, and housing assistance. A residence program for newly admitted severely disabled students needing attendant care is available. Many other services are available and most are free. If you have a visual, hearing, mobility, or orthopedic disability, or a learning or other non-apparent disability, you should contact DSP for complete information about services. Our Web site is at http://www dsp.berkeley. edu.

Graduate Assembly
Now in its 30th year of service, the Graduate Assembly (GA) is the student government for Berkeley’s graduate and professional students. Located in Anthony Hall (The Pelican Building), the GA represents the interests of graduate and professional students to the Berkeley administration, the UC systemwide administration, and the state. The assembly meets the first Thursday of every month (except in January and summer) at 5:30 p.m. in the Senate Chambers of Eshleman Hall. Each department is represented by at least one delegate, whom it appoints.

All graduate and professional students are welcome to participate in these meetings and other GA-sponsored events and programs, such as fundraising for graduate/professional student groups and activities, an annual New Graduate Student Orientation, receptions, academic workshops, and various programs sponsored by the Graduate Minority Students’ Project and the Graduate Women’s Project. The GA also publishes a bimonthly newsletter for graduate and professional students, The Berkeley Graduate, and maintains a Web site (http://ga.berkeley.edu). A patio and meeting room are available on a reservation-only basis for student groups, and staff assistance is available for various information and referral services at 642-2175.

Health and Counseling Services
University Health Services (UHS) provides comprehensive health, counseling, and prevention services to Berkeley students, faculty, and staff. UHS is located in the Tang Center at 2222 Bancroft Way. Services are offered during the academic year Monday through Friday. Selected services, including urgent care, are available after 5 p.m. and on Saturdays. Services and hours are reduced during the summer. You can call the 24-hour Advice Line at 643-7197. A nurse will discuss symptoms and provide advice on emergencies, self-care, and when to see a clinician. Most student visits to the Tang Center are supported by registration fees. There are, however, additional fees for selected services. Call the UHS Cashier’s Office, 642-8448, with any questions.

Medical and Insurance Services
All students can use on-campus services. These include visits with the physician/nurse practitioner of your choice, visits to specialists in any of nine medical disciplines, walk-in urgent care, appointments with nutritionists or health educators, laboratory tests and X-ray procedures, pharmacy, allergy tests and shots, and international travel care. Call 642-2000.

Movies
Pacific Film Archive, Berkeley Art Museum, 2621 Durant Avenue, 642-1124 (recording)
SUPERB Productions (Friday night movies in Wheeler Hall, sneak previews), 10 Eshleman Hall, 642-7477
Music
Morrison Library (listening library and reading room), 101 Main Library, 642-3671
Music Department, 104 Morrison Hall, 642-2678
Noon concerts, Hertz Hall, 642-4864
Practice rooms, Morrison Hall basement, 642-2681
UC Choral Ensembles (student musical activities), 51 César Chavez Student Center, 642-3880
UC Jazz Ensemble, 91 César Chavez Student Center, 642-5062
UC Marching Band, 53 César Chavez Student Center, 642-3436
Spirit Groups
Oski Rally Committee, etc., 53 César Chavez Student Center, 642-9644
SUPERB Productions
10 Eshleman Hall, 642-7477
Swimming Pools
Hours and information, 643-7470
Tickets
Cal Performances Box Office, Zellerbach Hall, 642-9988
SUPERB, 10 Eshleman Hall, 642-7477
Men’s and women’s athletic events, Athletic Ticket Office, 642-3277 or 1-800-GO-BEARS
Travel Center
MLK, Jr., Student Union, main lobby, 642-3000
The Underground
Pool tables, air hockey, fooseball, table tennis, 100 arcade games, MLK, Jr., Student Union, 642-3825
All Berkeley students must carry major medical health insurance, which covers hospitalization and some special services. You are automatically enrolled in the University's Student Health Insurance Plan (SHIP) and are charged a health insurance fee as part of registration. This insurance supplements the campus services available at UHS.

If you are covered by other health insurance, you may waive the SHIP requirement if you can show that your coverage is comparable to that available under the University plan. Please note that even if you waive out of SHIP, you are still eligible like all other students for on-campus health care at UHS.

A major medical health insurance plan is also available for purchase to spouses, domestic partners, and dependents of students. Dental insurance is available to students. For student insurance information, call 642-5700. Insurance information also is available at www.uhs.berkeley.edu.

Counseling and Psychological Services
Counseling is available for career, academic, and personal concerns; call 642-9494. The counselors are a multicultural group of social workers, psychologists, and psychiatrists. Any Berkeley student can come in to talk about choosing a major, learning about interests and abilities, clarifying career goals and exploring options, coping with personal crises, dealing with concerns about relations with family or others, overcoming learning and concentration problems, life at Berkeley, or any other concerns.

Psychological, career, and aptitude testing and group and couples counseling are available as part of the counseling process. Social services (642-6074) are also offered to assist students with concerns such as pregnancy, alcohol and other drug use, chronic or life-threatening diseases, traumatic accidents, and sexual assault.

The Tang Center also houses the Career and Educational Guidance Library (642-2367), which has materials on occupations, professions, and educational and career opportunities, and the Self-Care Resource Center, which has interactive programs, books, audio and video tapes, magazines, and self-assessment tools.

Health Promotion
Workshops and speakers are available on a variety of topics including HIV/AIDS, stress, cultural health issues, alcohol and other drugs, sexually transmitted diseases, sexual assault, and community health.

Trained student health educators offer workshops and individual consultations and organize groups of students to work on critical campus health issues. Peer educators earn 4 credits per year through the School of Public Health.

University Optometric Eye Center
The School of Optometry, located in Minor Hall, is one of the leading research facilities in the world for studying the eye, vision, and related disorders. As part of its academic programs, the school has an excellent Optometry Clinic that offers comprehensive eye care to faculty, staff, students, and the general public.

The clinic provides complete eye examinations, including eye health assessments and treatment. Prescriptions for glasses or contact lenses can be filled from an extensive selection of eyewear. In addition to providing primary vision care, specialized care is also available: ocular health, eye photography, binocular and infant vision, low-vision rehabilitation, and electro-diagnostic testing; vision training for reading or sports; video display terminal (VDT) examinations; special visual assessments for the disabled; and job-related vision examinations and safety glasses.

The school also operates an eye clinic open to the general public in University Health Services at 2222 Bancroft Way. Insurance (including SHIP and UC employee benefit coverages) is accepted.

For more information about the clinic in Minor Hall, call 642-2020; for more information about the clinic in University Health Services, call 643-2020.

Housing
Admission to Berkeley does not guarantee housing reservations. You should acquaint yourself well before your enrollment with the various living arrangements possible. Undergraduates will receive housing information and an application to the residence halls in their admission packets. Graduate students should write directly to Housing Services, 2401 Bowditch Street #2272, Berkeley, CA 94720-2272; telephone 642-3642; or send e-mail to apt@uclink4.berkeley.edu (students seeking family housing) or reshall@uclink4.berkeley.edu (all other graduate students). Information is also available on the Web site at www.housing.berkeley.edu.

More than 9,000 men and women live in University residence halls, fraternities, sororities, International House, cooperatives, and University Family Student Housing. Early application to living groups is recommended. The remaining students live in rooms and apartments in the community.
University Residence Halls

University-operated residence halls accommodate some 5,000 students, approximately 70 percent of whom are new, incoming students. All new, incoming fall freshmen and transfer students who apply by the deadline are guaranteed housing in the residence halls, if we are able to accommodate their preferences. Each residence hall is unique, and to become acquainted with the options, new students are encouraged to read their housing information thoroughly. If possible, they should also take the tour offered by the campus Visitor Information Center. Most halls are co-ed, and most offer a dining facility, recreational and social programs, and study rooms. University housing includes “theme programs” which provide a living environment focused on a language or culture. Most residence halls are within a few blocks of campus.

Community Living

The Community Living Office offers rental listings and counseling for students who are looking for housing in the community. For more information, write to the Community Living Office, 2401 Bowditch Street #2272, Berkeley, CA 94720-2272, or call 642-3642, or send e-mail to homeinfo@uclink4.berkeley.edu.

Co-ops

The University Students' Cooperative Association (USCA) is a nonprofit, student-owned and operated organization that is independent of the University. The Co-op houses approximately 1,200 students in 18 two- and three-story houses and apartments. Members must work five hours a week at a variety of duties. Contracts may be cancelled at the end of each semester. You may also join a program which allows you board although you do not room there. Admission priority is given to EOP/AA and disabled students. For more information, contact USCA, 2424 Ridge Road, 848-1936.

Family Student Housing

The University operates 900 apartments for married students and single-parent families. The apartments are located at the University Village in Albany, approximately four miles northwest of the campus, and at the Smyth-Fernwald complex in Berkeley. You may apply for family student housing before you have been admitted to the University. You should apply early, as assignments are made on a first-come, first-served basis, and the waiting period could be as long as a year. For more information, contact Apartment Assignments, 2401 Bowditch Street #2272, Berkeley, CA 94720-2272, or call 642-4109, or send e-mail to aps@uclink4.berkeley.edu.

Law and Graduate Student Apartments

Manville Apartments is a complex of 132 small, unfinished, single-occupancy studio apartments reserved exclusively for law and graduate students. It is located at 2100 Channing Way and offers many amenities: recreation room, laundry, mail room, storage space, cable TV, and in-room campus network and Internet hookups. For additional information, contact Apartment Assignments, 2401 Bowditch Street #2272, Berkeley, CA 94720-2272, or call 642-4109, or send e-mail to aps@uclink4.berkeley.edu.

International House

International House is a coeducational residence for about 600 students and scholars from the U.S. and abroad, primarily at the graduate level. It is also an intercultural program center for the campus, serving nonresident and resident members. An active schedule of cultural, social, and recreational events is offered, designed to promote understanding and friendship among all nationalities. For an application and further information, write or call the Residence Office, International House, University of California, Berkeley, 2299 Piedmont Avenue #2320, Berkeley, CA 94720-2320. Telephone: 642-9470; fax: 642-5220; e-mail ihires@uclink.berkeley.edu. You may also visit International House on the Web at ihouse.berkeley.edu. For nonresident membership, call the Program Office, 642-9460.

Information Online

A rich array of campus information is available online, and you can access it from the World Wide Web. Most campus Web servers can be discovered by accessing the Berkeley home page with appropriate browser software at http://www.berkeley.edu/. This links you to other campus servers that offer textual material, maps, forms, periodicals, and other kinds of information covering quite a range of general campus information, such as directories and event calendars.

Some online services of particular interest to students include the following:

- Information about student admission, requirements, course registration, schedule of classes, campus catalog, and other material crucial to students and prospective students. Much of this information (but not admissions) is at Bear Link (http://bearlink.berkeley.edu/), a gateway to the most important student resources online.

- Information about campus services fundamental to student life, such as health services, housing, athletics, student jobs, and student organizations. For Students at http://www.berkeley.edu/for_students.

- Resources that can help you with your academic work. In particular, two online systems offer access to campus and systemwide bibliographic catalogs: the campus GLADIS system, which includes circulation information from campus libraries, and the UC systemwide MELVYL system, which includes a large collection of scholarly materials for use by the UC community. These are accessible via the library Web site (http://www.lib.berkeley.edu/), which has links to GLADIS and MELVYL.

- The campus library Web site also maintains a growing selection of online journals and other discipline-related resources, as well as guides to the library and general interest material.

CAL Quiz
No. 5

What was the first piece of permanent sculpture on campus?

(Answer on page 456.)
These and other servers are accessible over the campus network from networked computers and workstations, campus computer facilities, and libraries.

International Student Advising
Services for International Students and Scholars (ISISS) offers a wide range of services to international students, international scholars, and their families. Services include an international student orientation program, guidance on visa matters, help in solving financial problems, advice and referrals about personal concerns, and information on almost any topic of special interest to international students and scholars. Located in International House, 2299 Piedmont Avenue, 642-2818, the office is open Monday through Friday, 9 a.m. to noon and 1 to 4 p.m. E-mail: iss@uclink.berkeley.edu; Web Site: www.ias.berkeley.edu/iss.

International Student Programs
The International House Program Office, 642-9460, organizes cultural, social, and recreational programs that enhance the appreciation of various cultures for both residents and nonresident members. Programs offer opportunities for personal interaction and participation in campus and community events including a host family program for international students and scholars. Trips to neighboring communities for home stays and tours of local institutions and facilities enable international visitors and U.S. citizens to learn from each other. I House cultural events, parties, and slide shows enrich the extracurricular life of the campus.

Nonresident membership in the I House (for a nominal fee) keeps you informed and allows you to participate in these events. For updated information, contact our Web site at ihouse.berkeley.edu.

Legal Services
If you are concerned about a legal problem or want information about your legal rights and obligations and you are a registered Berkeley student, you are encouraged to make an appointment with Beth Karren, the Student Legal Services' attorney, by calling 642-4980. For appointments only, please call 642-5717. Ms. Karren's office is located in Student Activities and Services, 102 Sproul Hall, and her hours are 9 a.m. to 4 p.m. Monday through Wednesday during the academic year and 9 a.m. to 4 p.m. Tuesday during the summer.

Office of the Ombudsperson for Students
The ombudsperson serves all students, both undergraduate and graduate, who feel that they have been treated unfairly or need help in resolving a problem. Having no official administrative role in imposing solutions, the ombudsperson acts as an independent "agent of justice" who, if the situation warrants it, investigates complaints and the conditions leading up to the complaints and attempts to work with all parties involved to mediate a satisfactory solution. All matters referred to the ombudsperson are held in the strictest confidence. The only exceptions, to be determined solely at the discretion of the ombudsperson, are when there appears to be imminent threat of serious harm.

If you are confronted with a bureaucratic impasse or feel you have been treated unfairly or need help with a procedural or academic problem, contact the ombudsperson. To make an appointment, call 642-5754.

Orientations for New Students
New Student Services offers programs, services, and publications to introduce new undergraduates to the Berkeley campus. All incoming freshmen and transfers will be sent information about the Cal Student Orientation (CalSO) Program. At CalSO, new students (and their parents) receive information, advice, and the student handbook Resource to ease their transition to life at Berkeley. New Student Services also organizes Welcome Week in the fall, staffs the chancellor's Smooth Transition Information Tent, and runs the CalSO Resource Center in the Martin Luther King, Jr., Student Union, where students can get help with class enrollment during the early weeks of each semester. New Student Services is located at 2515 Channing Way, second floor, 642-4970.

Smooth Transition
The fall "Smooth Transition" program builds upon Welcome Week activities and includes nearly a month of welcoming and orientation activities sponsored by academic departments, student service units, and student groups. Spring Smooth Transition includes orientations and an afternoon reception with the chancellor.

Re-entry Students Program
The Re-entry Students Program offers services and programs designed to promote adult learning for undergraduate re-entry students. The program is designed to encourage peer collaboration and build community. The program co-sponsors two academic courses, Education 98 and 198, with the School of Education. Each is offered for 1-3 units of passed/not passed credit. The following topics are covered: Increasing Academic Performance: Easing the Transition to Cal; Negotiating the Bureaucracy; A Guide to Campus Services; Graduating and Moving On; A Transitional Course for Graduating Seniors; The Peer Advocacy Seminar: A Peer-Based Advising Course. In addition, the Department of English co-sponsors English 310, a course in tutor training.

The program also provides advising, mediation, and advocacy, sponsors social and academic events, hosts an annual graduation celebration, and publishes a re-
entry newsletter. In addition to these services for current Berkeley students, the program also offers monthly orientations (co-sponsored by the Office of Undergraduate Admission and Relations with Schools) for prospective students. The program is located on the mezzanine level of the César Chavez Student Center and can be reached at 643-8070. You may also visit our website at www-slc.uga.berkeley.edu/reentryprogram/reentryhp.html.

Religious Activities
Since the University is a state-supported institution, it does not offer chapel services or religious activity on campus. However, there are more than 35 churches and student religious clubs within a few blocks of the campus and six campus ministries that comprise the University Religious Council. For additional information, contact the Office of Student Activities and Services, 102 Sproul Hall, 642-7950.

Safety
The University maintains a police department on the Berkeley campus for your protection and safety. The department consists of over 70 fully trained, sworn officers, 43 other full-time personnel, and 55 student employees. The Police Department is located in 1 Sproul Hall (basement) and is open 24 hours a day, seven days a week. Police patrol the campus, the surrounding University properties, and Southside and vicinity, and they investigate all crimes committed on University property. For emergencies, including police, fire, or medical, call 9-911 from campus phones requiring that you dial “9” for outside calls, 911 from pay phones or off-campus phones. For general business, call 642-6760 or visit us on the Web at www.berkeley.edu/ucpolice; for information about campus safety services and programs, call 64B-SAFE (642-7233) or visit us on the Web at www.berkeley.edu/safetyprograms; for information on emergency preparedness, call 642-9036 or visit us on the Web at www.berkeley.edu/oep; for lost and found, call 642-4936.

All bicycles on campus must have California bicycle licenses. Parking and Transportation licenses bicycles at 2427 Dwight Way Monday through Friday, 8 a.m. -noon and 1-5 p.m. For more information, call 642-4936.

Night Safety Shuttle/Night Escort Service
The Night Safety Shuttle and Night Escort Service are available in the evening for safe access to your car, campus facilities, nearby home, or public transportation. Self-defense classes, safety presentations, and workplace violence presentations are also available for your safety. Call 642-7233 or 64B-SAFE for more information, or visit us on the Web at www.berkeley.edu/safetyprograms.

Sexual Assault Prevention, Medical Care, and Counseling
University Health Services offers resources to maximize your personal safety and to contribute to a campus environment that does not tolerate sexual assault, promotes its prevention, and supports assault survivors. Prevention activities include workshops and other educational campaigns. Workshops are available for living centers, classes, and campus departments; call 642-7202.

Immediate response to survivors of sexual assault includes confidential crisis counseling as well as assistance and advocacy, as needed, for the initial medical evaluation, legal and police procedures, and academic and housing issues; call 642-6074. Services are available for both recent survivors and those working to recover from a past assault. We also provide short-term individual and group counseling and education sessions for friends, family, housemates, and co-workers of survivors.

Student Activities and Services
Student Activities and Services (SAS) staff help students learn to use the campus to its fullest. SAS encourages participation in co-curricular activities that, for many students, can be one of the most rewarding benefits of a Berkeley education.

SAS recognizes more than 400 student groups including fraternities and sororities, honor societies, student publications, and service organizations. Among SAS’s support services are leadership workshops and conferences, multicultural student group advising, and internships and awards. Volunteer opportunities are available through the Cal Corps Public Service Center (see Community Service Programs, above). SAS also assists with facility reservations and events management, disseminates campus information, and administers funding for student programs.
Registered students may seek free legal advice from the attorney for students (see Legal Services, above). The campus Women’s Resource Center is also affiliated with SAS; see Women’s Resource Center, below. SAS is located in 102 Sproul Hall (642-5171, 642-6778 TDD).

**Student Learning Center**

The Student Learning Center is an academic support service that offers tutoring and learning skills assistance to undergraduate students. Learning skills staff provide individual and group tutorial services in writing, study skills, and reading improvement, and in introductory courses in the social sciences, mathematics, statistics, and sciences. In addition, courses for credit are offered which focus on the strategies required to develop strong academic skills in a variety of subject areas.

The center is located on the lower Sproul level of the César Chavez Student Center; the phone number is 642-7332. You may also visit the Web site at http://www.slc.berkeley.edu.

**Student Life Advising Services**

Student Life Advising Services provides all students, with an emphasis on Educational Opportunity Program students (low-income, first-generation college students), with academic, personal, financial, and career counseling and advising services. Professionally trained staff help students to develop problem-solving and self-management skills. The goals of SLAS are to motivate and direct students toward achieving academic excellence and to increase the number of low-income, first-generation students who graduate from Berkeley. Counselors and peer advisers are available on both a drop-in and appointment basis to assist students with their concerns.

In addition to counseling and advising services, SLAS administers a wide range of programs designed to assist students in achieving their educational and career goals. These include the Achievement Awards Program, Reduced Study-Load Program, Housing Assistance Program, Summer Bridge Program, Peer Advising Program, schedule request review, emergency loans, and financial assistance.

Student Life Advising Services is a component of Academic Partnerships in Excellence (APEX), located in 140 César Chavez Student Center #2440, 642-7224; http://www-slc.uga.berkeley.edu/SLAS/SLAS.html.

---

**Women’s Resource Center**

The Women’s Resource Center (WRC) sponsors programs, groups, internships, and publications that promote understanding of the changing roles of gender for women and men and raise campus awareness of the issues affecting the experiences and opportunities of students.

The WRC offers a comfortable library/resource room where students can study, explore personal and academic interests, and do research on gender-related topics. The center also provides individual problem-solving support and assistance, referrals to campus and community resources, programs and events for diverse student women’s groups, and the lesbian, gay, bisexual and transgender (LGBT) student community. The LGBT Services Office is also housed within the WRC and offers internships, support, and resources for students, faculty, and staff.

If you would like to make good friends, find support in coping with a crisis related to sexual harassment or sexual assault, build leadership skills, advocate for responsive policies and programs, contribute to the LGBT community, organize a campuswide event, create a specialized support group, or gain work experience, stop by the Women’s Resource Center and introduce yourself. All members of the campus community who would like to contribute or get involved are welcome. The center is located at 250 César Chavez Student Center, 642-4786.

*Beginning fall 1999, the name of the Women’s Resource Center will change to Gender and Equity Center.*
Berkeley anthropologist Alfred Kroeber (1876-1960) taught the first anthropology course offered at the University. He was the department's guiding spirit from 1901 until his retirement in 1946.
Myths and Facts About Majors and Careers

Myths about the relationship between your major and career goals abound. When you choose a major, you should have no misconceptions about the undergraduate preparation you will need to pursue your goals. Several popular myths about majors and careers are debunked.

Myth: When you choose a college major you are choosing a career.
Fact: A study conducted by the College Placement Council found that the majority of college graduates are successfully employed in fields not directly related to their academic majors. A few majors such as engineering, computer science, and accounting prepare students for fairly specific career fields, but most majors, especially in the liberal arts, give graduates a wide range of career options.

Myth: You should choose a career that is in high demand.
Fact: The job market moves in cycles. The career that is in high demand now may be glutted by the time you finish college—either because so many people have already entered that field or because economic patterns have changed. New fields are also constantly opening up. So it is better to choose a major and career that genuinely interest you.

(continued on next page)
Competitive Admission at Berkeley

All programs at Berkeley receive more applicants than they can accept. For fall 1998, Berkeley was able to admit only 8,450 of 30,000, or about 28 percent, of its freshman applicants and only 2,350 of 7,000, or about 34 percent, of its transfer applicants. Consequently, to gain admission to Berkeley, you need to present an academic profile much stronger than that represented by the minimum University of California admission requirements. See page 442 in the Appendix for more information on selection criteria for the Berkeley campus. You can also obtain information online at http://www.uga.berkeley.edu/ousas/.

Admission As a Freshman

Berkeley considers you a freshman applicant if you have graduated from high school and have not enrolled in a regular session at any college or university. If you attend a summer session immediately after graduating from high school, you are still a freshman applicant.

Minimum Eligibility Requirements

California Residents*

To be eligible for admission to Berkeley, you must meet the subject, scholarship, and examination requirements described below.

Subject Requirement

To satisfy this requirement, you must complete the high school courses listed below with a grade-point average defined by the scholarship requirement. This sequence of courses is also known as the "a-f" requirements. You must take 15 units of high school courses to fulfill the subject requirement, and at least 7 of the 15 units must be taken in your last two years of high school. (A unit is equal to an academic year, or two semesters, of study.)

Applicants from California high schools: To be acceptable to Berkeley, the courses must appear on a list certified by your high school principal as meeting Berkeley's admissions requirements. Your counselor or principal will have a copy of this list.

a. History/Social Science—Two years required. Two years of history/social science, including one year of U.S. history and one-half year of U.S. history and one-half year of civics or American government; and one year of world history, cultures, and geography.

b. English—Four years required. Four years of college preparatory English that include frequent and regular writing, and reading of classic and modern literature. Not more than two semesters of 9th-grade English can be used to meet this requirement.

c. Mathematics—Three years required, four recommended. Three years, including elementary and advanced algebra and two- and three-dimensional geometry. Approved integrated math courses may be used to fulfill this requirement, as may math courses taken in the 7th and 8th grades that your high school accepts as equivalent to its own courses.

<table>
<thead>
<tr>
<th>University of California Freshman Eligibility Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-F GPA</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>2.82</td>
</tr>
<tr>
<td>2.83</td>
</tr>
<tr>
<td>2.84</td>
</tr>
<tr>
<td>2.85</td>
</tr>
<tr>
<td>2.86</td>
</tr>
<tr>
<td>2.87</td>
</tr>
<tr>
<td>2.88</td>
</tr>
<tr>
<td>2.89</td>
</tr>
<tr>
<td>2.90</td>
</tr>
<tr>
<td>2.91</td>
</tr>
<tr>
<td>2.92</td>
</tr>
<tr>
<td>2.93</td>
</tr>
<tr>
<td>2.94</td>
</tr>
<tr>
<td>2.95</td>
</tr>
<tr>
<td>2.96</td>
</tr>
<tr>
<td>2.97</td>
</tr>
<tr>
<td>2.98</td>
</tr>
<tr>
<td>2.99</td>
</tr>
<tr>
<td>3.00</td>
</tr>
<tr>
<td>3.01</td>
</tr>
<tr>
<td>3.02</td>
</tr>
<tr>
<td>3.03</td>
</tr>
<tr>
<td>3.04</td>
</tr>
<tr>
<td>3.05</td>
</tr>
</tbody>
</table>

*ACT is scored in intervals of 1 point, from a minimum of 1 to a maximum of 16. SAT I is scored in intervals of 10 points, from 400 to 1600.

d. Laboratory Science—Two years required, three recommended. Two years of a laboratory science providing fundamental knowledge in at least two of these three areas: biology, chemistry, and physics. Laboratory courses in earth/space sciences are acceptable if they have as prerequisites or provide basic knowledge in biology, chemistry, or physics. The appropriate two years of an approved integrated science program can be used to fulfill this requirement. Not more than one year of 9th-grade laboratory science can be used to meet this requirement.

e. Language Other than English—Two years required, three recommended. Two years of the same language other than English. Courses should emphasize speaking and understanding and include instruction in grammar, vocabulary, reading, and composition. Courses in languages other than English taken in the 7th and 8th grades may be used to fulfill part of this requirement if your high school accepts them as equivalent to its own courses.

f. College Preparatory Electives—Two years required. Two units (four semesters) in addition to those required in "a-e" above, chosen from at least two of

*Residency status: The definition of legal residence for tuition purposes is different than that for admission purposes. If you have questions about your residency status, see the Appendix or contact the Office of the Registrar at 642-1614.
Myth: You cannot do much beyond working hard at classes in your major to improve your chances of career success.

Fact: Courses outside your major and independent study projects are important, too. You will gain valuable experience by participating in extracurricular activities such as student organizations, sports, social groups, and student government. In addition, internships, summer jobs, and volunteer activities will help you define your interests, develop skills, strengthen your résumé, and establish professional contacts in the working world.

Myth: Your first job will determine your career. Therefore you ought to be very careful about what you choose when you make an academic or career decision.

Fact: You cannot be entirely sure of any decision. Each career has its advantages and disadvantages; any choice involves some risk. Do not think that you cannot change your mind. According to the Bureau of Labor Statistics, the average person changes careers three times in a lifetime—and even within a specific field, you are usually free to explore.

the following areas: history, English, advanced mathematics, laboratory science, language other than English (a third year in the language used for the "e" requirement, or two years of another language), social science, and visual and performing arts.

Scholarship Requirement

The scholarship requirement defines the grade-point average (GPA) you must attain in the "a-f" subjects described above. If your "a-f" GPA is below 3.3 but above 2.81, you have met the minimum requirement if you achieve the necessary college entrance test score indicated in the eligibility index on the previous page.

The University calculates your GPA in the "a-f" subjects by assigning point values to the grades you earn, totaling the points, and dividing the total by the number of "a-f" course units. Points are assigned as follows: A=4 points, B=3 points, C=2 points, D=1 point, F=0 points.

Only the grades you earn in "a-f" subjects in the 10th, 11th, and 12th grades are used to calculate your GPA. Courses you take in 9th grade can be used to meet the subject requirement if you earn a grade of C or better, but they will not be used to calculate your GPA.

Honors courses: The University assigns extra points for up to 4 units of certified honors-level and advanced placement courses taken in grades 10-12: A=5 points, B=4 points, C=3 points. No more than 2 units of certified honors-level courses taken in the 10th grade may be given extra points. A grade of D in an honors or advanced placement course does not earn extra points.

The courses must be in the following "a-f" subjects: history, English, advanced mathematics, laboratory science, or foreign language, and they must be certified at your high school as offered at the honors level. In these fields, as well as in the fields of computer science, social science, and the visual and performing arts, courses that are designed to prepare students for Advanced Placement Examinations, the International Baccalaureate Higher Level Examination, and college courses that are transferable to the University are acceptable honors-level courses.

D and F grades: D and F grades in the "a-f" courses must be repeated or validated. Consult with your counselor to determine how these grades can be improved and how the University will use them in evaluating your scholarship record.

Grades will not be used for repeated courses in which you initially earned a grade of C or better.

Examination Requirement

You must submit the following test scores:

Either the SAT I: Reasoning Test or the American College Test (ACT). The verbal and mathematics scores on the SAT I must be from the same sitting. The ACT composite score must be submitted.

Three SAT II: Subject Tests, including Writing, Mathematics Level IC or IIC, and one test in one of the following areas: English literature, foreign language, science, or social studies.

For information about the tests you must take to fulfill the examination requirement, talk to your school counselor or write to the appropriate testing organization. Berkeley requires you to take these tests by December of your senior year.
Admission by Examination Alone
If you do not meet the subject and scholarship requirements, you may be able to qualify for admission to the University by examination. To satisfy the minimum requirements for qualifying by examination alone, you must achieve a total score of at least 1400 on the SAT I or a composite score of 31 or higher on the ACT. In addition, you must earn a total score of 1760 or higher on the three SAT II: Subject Tests, with a minimum score of 530 on each test. You cannot qualify for admission by examination alone if you have completed 12 or more units of transferable course work at another college or university following high school graduation, or if you have taken transferable college courses in any subject covered by the SAT II: Subject Tests.

Admission of Nonresident Applicants
The minimum freshman admission requirements for nonresidents of California are the same as those for residents except for the following:

Scholarship requirement: Your grade-point average in the "a-f" subjects must be 3.4 or higher, regardless of your college entrance examination score. The eligibility index is used only for California residents.

Admission by examination alone: You must score at least 1400 on the SAT I, or 31 on the ACT. Your total score on the three required SAT II: Subject Tests must be at least 1850, with a minimum score of 530 on any single test.

Admission As a Transfer Student
Berkeley has a strong commitment to transfer students and has worked hard in recent years to develop programs to help students with the transfer process. Following California’s Master Plan for Higher Education, Berkeley gives high priority to students transferring from California’s community colleges. In fall 1998, we accepted approximately 2,000 of these students.

Most programs at Berkeley receive applications from far more transfer students than they can accept. For fall 1998 the campus was able to admit approximately 2,350 of 7,000 junior-level applicants, or 34 percent. We were also able to defer the admission of approximately 500 fall applicants to the spring 1999 semester. Consequently, to be competitive you need to present an academic profile much stronger than that represented by the minimum UC admission requirements and complete preparation for your intended field of study.

In general, Berkeley admits transfer applicants at the junior level only—or students who have completed at least 60 UC-transferable semester units. Applicants to the Colleges of Chemistry, Engineering, Environmental Design, Letters and Science, and the Walter A. Haas School of Business must complete all required units and prerequisites by the end of the preceding spring semester.

You can find more information concerning general transfer admission requirements to the University of California system in the brochure “Answers for Transfers,” available in your community college counseling office or online at http://www.ucop.edu/pathways/infoctr/at/. For specific information on preparing to transfer to Berkeley, see the Appendix, the flyers “Transfer Selection” and “Breadth Requirements for Junior Transfers to the College of Letters and Science,” and the announcements of the individual colleges and schools. You can also obtain information online at http://www.uga.berkeley.edu/ouars/.

Minimum Eligibility Requirements
Requirements for California Residents*
There are three ways in which you can meet the University’s minimum admission requirements for transfer students:

1. If you were eligible for admission to the University when you graduated from high school—meaning you satisfied the subject, scholarship, and examination requirements—you are eligible to transfer if you have a C (2.0) average in your transferable college course work.

2. If you met the scholarship requirement but did not satisfy the subject requirement, you must take transferable college courses in the subjects you are missing, earn a grade of C or better in each of these required courses, and earn an overall C (2.0) average in all transferable college course work to be eligible for transfer. If you met the scholarship requirement but did not meet the examination requirement, you must complete a minimum of 12 semester (18 quarter) units of transferable work and earn an overall C (2.0) average in all transferable college course work completed.

3. If you were not eligible for admission to the University when you graduated from high school because you did not meet the scholarship requirement, you must
   • complete 90 quarter units or 60 semester units of transferable college credit with a grade-point average of at least 2.4, and
   • complete a course pattern requirement to include:
     (a) two transferable college courses (3 semester or 4.5 quarter units each) in English composition, and
     (b) one transferable college course (3 semester or 4.5 quarter units) in mathematical concepts and quantitative reasoning, and
     (c) four transferable college courses (3 semester or 4.5 quarter units each) chosen from at least two of the following subject areas: the arts and humanities, the sciences, and social sciences.

*Residency status: The requirements for California residents also apply to dependents of University of California employees. The manner in which legal residence is defined for tuition purposes is different than that for admission purposes. If you have questions about your residency status, see the Appendix or contact the Office of the Registrar at 643-1614.
social and behavioral sciences, the physical and biological sciences. (Students who satisfy the Intersegmental General Education Transfer Curriculum (IGETC) before transferring to the University will satisfy Option 3b above of the transfer admission requirements.)

Requirements for Nonresidents
The minimum admission requirements for nonresident transfer applicants are the same as those for residents except that nonresidents must have a grade-point average of 2.8 or higher in all transferable college course work.

Intercampus Transfers
If you are registered on any campus of the University or were previously registered in a regular session of the University, you may apply for transfer to another campus of the University by filing the undergraduate application. Filing dates and application fees are the same as those listed for new applicants. Note: Intercampus transfer applicants receive no priority in the selection process.

Admission of International Applicants
International students are those holding or intending to apply for nonimmigrant visas. If you wish to apply for admission as an international student, you will find important information about freshman and transfer student admission for international students, foreign academic records, visas, required examinations, fees and expenses, housing, and travel on the World Wide Web at http://www.uga.berkeley.edu/oars/level_3/int_apps.html. You may also contact the Office of Undergraduate Admission and Relations with Schools at 110 Sproul Hall #5800, or call 642-3246. If you need to improve your English language skills, you should contact the English Language Program, UC Berkeley Extension, 1995 University Avenue #7022, Berkeley, CA 94720-7022, USA.

Readmission
If you formally withdraw from Berkeley, were absent for one or more semesters, or are returning to Berkeley in the Limited Status or Second Bachelor’s programs, you must file an Undergraduate Application for Readmission. Application deadlines are April 15 for fall admission and August 15 for spring admission. Applications must be accompanied by a $40 readmission fee. If you attended other colleges or universities while you were away from Berkeley, you must send an official transcript to Berkeley immediately. Address correspondence to the Office of Undergraduate Admission and Relations with Schools, 110 Sproul Hall #5800, or call 642-0734.

Admission by Exception
If you do not meet the regular admission requirements, you may be eligible for admission by exception. You will have to demonstrate your ability and potential to succeed at the University. Requests for consideration for admission by exception should be discussed in the essay portion of your application for admission. If you have questions, contact the Office of Undergraduate Admission and Relations with Schools at 642-3175.

Limited Status
Limited-status students are a special category of undergraduates who have earned an undergraduate degree with a record of superior scholarship (an overall grade-point average of at least 3.3), but need additional undergraduate course work for a specific and clearly defined purpose. Only the Colleges of Chemistry and Engineering will consider admitting students in limited status.

Limited status is granted only in special circumstances; students’ needs, abilities, and programs should have enough urgency to justify admitting them in place of students in regular status, and there should be no reasonable alternative available. Use of limited status to enable students to raise their scholarship average is not permitted.

Work Toward a Second Bachelor’s Degree
If you are a candidate for a second bachelor’s degree, you will be considered for admission only if you need an entirely new major program for a valid educational purpose. Only the Colleges of Chemistry and Engineering and the School of Optometry will consider admitting students for a second bachelor’s degree. To apply for this program, you must have earned an undergraduate degree with a record of superior scholarship (an overall grade-point average of at least 3.3) and must have completed all lower division requirements for your proposed major with excellent grades. Your proposed program must represent a definite change in field from your first undergraduate degree, and you must prove that you require the second degree for the stated purpose. If you need course work but not a degree in a new field, you should apply for limited status (see above) instead.

In practice, Berkeley admits very few students to the limited status or second bachelor’s programs each year. Detailed information about these programs is available in the Office of Undergraduate Admission and Relations with Schools, 110 Sproul Hall #5800, or call 642-3175.

If you are not eligible for the second bachelor’s or the limited status programs, you may consider concurrent enrollment through UC Berkeley Extension as an alternative. For information call 642-4111.
Registration and Enrollment in Classes

Tele-BEARS

Tele-BEARS is an interactive computer system that allows you to enroll in classes by using a touchtone telephone or a computer connected to the World Wide Web. A recorded human voice on the telephone version instructs you when to respond and what to enter for each transaction. Because Tele-BEARS is interactive, you always receive the most immediate, up-to-the-moment information regarding your registration and class enrollment.

How Tele-BEARS Works

To ensure the fairest possible distribution of courses to the student body, enrollment in classes is spread over two phases and an adjustment period. Phase I, starting toward the end of the previous semester, allows you to enroll in a maximum of 10 units plus one physical education activity course. In Phase II, starting immediately after Phase I, you may complete your enrollment by enrolling in courses up to your college or school maximum. You may then add and drop courses during the adjustment period, which starts one week before instruction and extends through the first three weeks of instruction.

Access to Tele-BEARS is regulated by pre-assigned appointments which are spread throughout each phase period. For security purposes, you are assigned a unique Personal Identification Number (PIN) which must be entered after your Student ID number in order to use Tele-BEARS.

To enroll and register through Tele-BEARS, follow these steps:

Receive Your Registration Form

The Office of the Registrar will mail you a Tele-BEARS registration form indicating your PIN and appointment times.* If you require academic advising, you also will be required to obtain an Adviser Code (AC) from your major adviser or college/school Dean’s Office.** The AC must be entered when you first access Tele-BEARS each semester. If you will be a new or readmitted student, you also will be mailed a Schedule of Classes which lists the meeting times and locations of all courses to be given at Berkeley for the semester.

Enroll in Classes

With the Schedule of Classes and the General Catalog, you can determine a class schedule. If you will be a new student, you are encouraged to attend the Cal Student Orientation (CalSO) program to obtain your AC and to help you choose classes and formulate a schedule tailored to your particular academic interests. Contact the CalSO office, 642-4970, for information. Once you have selected your classes, you are ready to use Tele-BEARS to enroll.

Pay Registration Fees

A monthly billing statement indicating all University fees due will be mailed to you by the Loans and Receivables Office. You may pay your fees in full or in five installments on the Deferred Payment Plan. Fee payment (either in full or the first installment) is due on July 15 for the fall semester and December 15 for the spring semester.

The Deferred Payment Plan

You may pay your registration fees in five installments if you wish. A nonrefundable processing fee will be charged to your first installment. Your billing statement will indicate the amount due for the first payment; subsequent statements for the remaining payments will be mailed to your local address on file with the Office of the Registrar. For full information about the Deferred Payment Plan, read the billing statement or call the Loans and Receivables Office at 642-3190.

*Registration forms for continuing and readmitted students will be mailed starting mid-March for the fall semester and mid-October for the spring semester. Forms for new students will be mailed starting early June for the fall semester and early November for the spring semester.

**New students in the College of Engineering and the College of Letters and Science must obtain their ACs from the Cal Student Orientation Program (CalSO).
Alternatives to Overcrowded Courses
If you are unable to get your first choice of a particular class, think creatively. Check with an adviser to determine whether an alternative course is a viable option for you. Consider these examples:

- Economics: Environmental Economics and Policy (ENVECON). 1 is accepted as equivalent to Econ 3; ENVECON 101, to Econ 125; ENVECON 151, to Econ 171.

Psychology: Consider alternatives outside the Psychology Department: cognitive science (UGIS), developmental psychology (Education), biological psychology (MCB), or organizational psychology (Business). See also Social Welfare and Public Health.

- Literature: Many language departments offer literature courses in translation. For an exhaustive list, see the Schedule of Classes.

Political Science: Consider offerings in Public Policy and Environmental Science, Policy, and Management.

- Letters and Science Breadth Requirements: L&S accepts many classes from other colleges in satisfaction of its breadth requirements. Use Info-BEARS, the Electronic Schedule of Classes, and the L&S publication "Earning Your Degree" to find alternatives to overcrowded courses that meet the L&S breadth requirements.

Receive Your Confirmed Class Schedule
At the end of Phase II, the Office of the Registrar will send you a Confirmed Class Schedule indicating all classes for which you have enrolled through Tele-BEARS.

Info-BEARS
Info-Bears is Berkeley's information retrieval system and an adjunct to Tele-BEARS. With Info-BEARS, you can obtain your final grades for the previous term, the status of your financial aid application, your current class schedule, enrollment restrictions for a particular course, and much more. Info-BEARS is available 24 hours a day, seven days a week, except from 6 a.m. to 7 a.m. Monday through Saturday, and from 5 a.m. to noon on Sunday. You can access Info-BEARS by telephone at 642-9400 or on the Web via the Office of the Registrar's Web site at http://registrar.berkeley.edu:4204. For more information, see the Schedule of Classes.

Bear Facts
Bear Facts is in an online computer system that provides information regarding your registration, grades, financial aid, billing, class schedule, and more. You can access Bear Facts on the Web at http://bearfacts.berkeley.edu. For more information, see the Schedule of Classes.

Undergraduate Majors and Degrees
Planning for a Major
The decision on the choice of a major is a very important one and should be made on the basis of your interests and abilities as well as your career goals. You should look carefully into the programs available by using this catalog and by visiting departments in which you are interested. Your adviser can help you explore the possibilities of interdisciplinary majors, which you take by declaring a group major or field major. If the major you are interested in is offered in more than one college or division, your adviser can help you choose the one that best suits your academic goals.

You are strongly urged to declare your major as soon as possible and should begin thinking about possible majors in your first year at Berkeley. Some majors require a full four years to complete; most majors require that some or all of the lower division major requirements be completed before you may be accepted into the major. Since you are expected to be accepted into a major by the time you have completed 60 units, these lower division major requirements should be planned into your program for the first two years. It is possible for you to plan a program that would include preparation for more than one major; an easy task if

the majors in question have some lower division requirements in common.

Some majors are very crowded and cannot accommodate all applicants. You should consult closely with the departments in which you have an interest to learn of any restrictions that have been placed on entry to the major.

Declaration and Change of Major
Regulations and procedures for declaring the major vary for each college. You may, at any time up to the last semester of residence, file a petition for a change of major. (This policy does not apply to students in the College of Engineering.) You must secure approval for this action from the dean or other authorized person in the college or department to which you are transferring.

Preparation for Graduate Study
If you are preparing for study toward a higher degree, you should learn, as early as possible, the entrance and degree requirements of your graduate field, in order to include all prerequisite steps in your undergraduate program.

Undergraduate Degrees
African American Studies, B.A.
American Studies, B.A.
Anthropology, B.A.
Architecture, B.A.
Art (History of), B.A.
Art (Practice of), B.A.
Asian Studies, B.A.
Asian American Studies, B.A.
Astrophysics, B.A.
Business Administration, B.S.
Celtic Studies, B.A.
Chemical Engineering, B.S.
Chemistry, B.A. or B.S.
Chicano Studies, B.A.
Chinese Language, B.A.
Classical Civilization, B.A.
Classical Languages, B.A.
Cognitive Science, B.A.
Comparative Literature, B.A.
Computer Science, B.A. or B.S.
Conservation and Resource Studies, B.S.
Development Studies, B.A.
Dramatic Art, B.A.
Dutch Studies, B.A.
Earth Science, B.A.
Economics, B.A.
Engineer in g and Engineering Science, B.S.


Ethnic Studies, B.A.

Film, B.A.

Forestry, B.S.

French, B.A.

Genetics and Plant Biology, B.S.

Geography, B.A.

Geology, B.A.

Geophysics, B.A.

German, B.A.

Greek, B.A.

History, B.A.

Integrative Biology, B.A.

Interdisciplinary Studies Field Major, B.A.

Italian Studies, B.A.

Japanese Language, B.A.

Landscape Architecture, B.A.

Latin, B.A.

Latin American Studies, B.A.

Legal Studies, B.A.

Linguistics, B.A.

Mass Communications, B.A.

Mathematics, B.A.

Middle Eastern Studies, B.A.

Molecular and Cell Biology, B.A.

Molecular Environmental Biology, B.S.

Music, B.A.

Native American Studies, B.A.

Near Eastern Studies, B.A.

Nutritional Sciences, B.S.

Optometry, B.S., O.D.

Peace and Conflict Studies, B.A.

Philosophy, B.A.

Physical Sciences Field Major, B.A.

Physics, B.A.

Political Economy of Industrial Societies, B.A.

Political Science, B.A.

Psychology, B.A.

Religious Studies, B.A.

Resource Management, B.S.

Rhetoric, B.A.

Scandinavian, B.A. (Danish, Norwegian, Swedish)

Slavic Languages and Literatures, B.A.

Social Welfare, B.A.

Sociology, B.A.

South and Southeast Asian Studies, B.A.

Spanish, B.A.

Statistics, B.A.

Vision Science, B.S.

Women's Studies, B.A.

1 The Haas School of Business requires completion of 60 semester units for admission into its program.

2 A chemistry major may be taken either in the College of Chemistry (B.S.) or in the College of Letters and Science (B.A.).

3 Computer science may be studied either in the College of Engineering (B.S. in electrical engineering and computer science) or in the College of Letters and Science (B.A.).

4 An environmental sciences major may be taken either in the College of Natural Resources (B.S.) or in the College of Letters and Science (B.A.).

5 Admission into the optometry program requires completion of 90 acceptable semester units.

6 Applicants interested in vision science should apply for optometry and contact an adviser after admission.

CAL Quiz No. 7

On what occasion did an Army chaplain offer a prayer that included the plea, “Oh, God, bless all the schools and colleges, and especially the University of California”? (Answer on page 456.)
I make it a point to talk to my professors in their office hours. It’s nice to go in and talk to them because they’re really willing to help. They’re not as frightening as they seem in class.

4th-year student

Minors

Minors are offered at Berkeley in many departments and groups in the College of Letters and Science:

African American Studies
Anthropology
Art History
Art Practice
Asian Studies
Astrophysics
Celtic Studies
Classics
Creative Writing (UGIS)
Dunce
Demography
Dramatic Art
Dutch Studies
English
Ethnic Studies
French
Geology
Geography
German
Italian Studies
Lesbian, Gay, Bisexual, and Transgender Studies (UGIS)
Mathematics
Music
Near Eastern Studies
Peace and Conflict Studies
Philosophy
Physics
Political Economy of Industrial Societies
Public Policy
Religious Studies (UGIS)
Rhetoric
Scandinavian
Slavic Languages and Literatures
South and Southeast Asian Studies
South Asian Archaeology
Spanish and Portuguese
Women’s Studies

Minors are also offered in the College of Environmental Design, in the College of Natural Resources, and in the School of Education. For more detailed information and lists of the minors available, see the section “Colleges, Schools, and Interdisciplinary Programs” beginning on page 87.

Undergraduate Degree Requirements

As soon as you have been accepted for admission to Berkeley, you should learn the requirements you will have to fulfill to earn your bachelor’s degree. These requirements are prescribed by four sources: the University, the Berkeley campus, your college or school, and your department. All are summarized below. For more information, pick up a copy of “Undergraduate Degree Requirements for Graduation” from the Office of the Registrar, 120 Sproul Hall.

University Requirements

The University sets two general requirements for the baccalaureate degree: Subject A and American History and Institutions.

Subject A Requirement

The University assumes that you are proficient in English and in writing about academic topics. Fulfillment of the Subject A requirement is a prerequisite to enrollment in all freshman reading and composition courses. If you have not passed the Subject A examination or otherwise fulfilled the requirement when you enter the University, you should enroll in College Writing 1A during your first or second semester. College Writing 1A is a 6-unit course that satisfies the Subject A and the first half of the reading and composition requirements.

In addition to a passing score on the Subject A examination, the Office of Undergraduate Admission and Relations with Schools accepts the following means of fulfilling the Subject A requirement before you enter the University:

• A minimum score of 680 on the SAT II: Subject Test in Writing taken since May 1998.
• A minimum score of 660 on the SAT II: Subject Test in Writing taken May 1995 through April 1998.
• A minimum score of 600 on the SAT II: Subject Test in Writing taken May 1994 through April 1995.
• A minimum score of 600 on either form of the College Board Achievement Test in English Composition—“with essay” or “all multiple choice” taken before May 1994.
• A minimum score of 3 on the Advanced Placement Test in English Composition and Literature or in English Language and Composition.
• A minimum score of 5 on the International Baccalaureate Higher Level Examination in English (Language A only).
• A score of “Pass for Credit” on the California State University and Colleges English Equivalency Examination (discontinued 1993).

• A minimum grade of C in a transferable college-level English composition course completed at an accredited college or university and accepted by the Office of Undergraduate Admission and Relations with Schools at Berkeley.

American History and Institutions Requirements
The American History and Institutions requirements are based on the principle that a U.S. resident graduated from an American university should have an understanding of the history and governmental institutions of the United States. These requirements may be met as follows:

I. Options for Students Entering Berkeley for the First Time Fall Semester 1983 or Later:
Both the American History and the American Institutions requirements may be satisfied in the following ways:

• By fulfilling the portion of the “a” subject requirement for admission that consists of one year of U.S. history or one-half year of U.S. history and one-half year of U.S. government in high school with a grade of C or better.

• By taking one quarter or semester of a transferable course in basic U.S. history or U.S. government at a college or university before entering Berkeley. Inquiries about specific courses should be directed to the Office of Undergraduate Admission and Relations with Schools, 110 Sproul Hall.

• By passing the high school Advanced Placement American History exam with a score of 3 or better or the SAT II or Achievement Test in U.S. history with a score of 550 or better (500 or better if taken before April 1995).

• For students transferring from another UC campus by taking any course or courses that satisfy the AH&I requirements of that campus.

Students who have not satisfied the AH&I requirements before entering Berkeley may satisfy them in the following ways:

• By taking the American History and/or American Institutions exams. These exams are graded passed/not passed and are offered on campus throughout the year. Contact the AH&I Office for information and reading lists.

• By taking, at Berkeley, History 7A or 7B for the History requirement, and Political Science 1 for the Institutions requirement. (Students who took other courses before fall semester 1988 may check with the AH&I Office for possible AH&I credit.)

• By taking a course or courses, approved by the AH&I Office, at another collegiate institution.

Cal Sports
1892: The first “Big Game” between Cal and Stanford.
1895: Following a spectacularly successful tour through the East by the UC track team, California teams become known as the “Golden Bears.”
1914: At the Big Game, Cal students in the football stands use cards of varying colors to form patterns, the first recorded use of card stunts at a college football game.
1921: The 1920 California football team, considered one of the greatest college teams of all time, culminates its undefeated season with a 28-0 victory over Ohio State in the Rose Bowl. During the season, the Golden Bears scored 510 points to their opponents’ 14.
1924: Helen Wills, a freshman, wins national and international singles titles in tennis and teams with alumna Hazel Hotchkiss to win the same crowns in doubles.

(continued on next page)
By mixing these three alternatives (for example, an exam for one requirement and a course for the other).

**Freshmen:** Your first opportunity to see the status of your AH&I requirements will be when you use Info-BEARS or Bear Facts to register for classes or check your grades after your first semester.

**II. Students Who Entered Berkeley Between Fall 1981 and Spring 1983 may use any of the options listed under Section I above with the following exceptions:**

- The American History and Institutions requirements are not linked to the "a" subject requirement for admission. The AH&I requirements may be met in high school by completing two semesters of U.S. history with an average grade of B or better for the History requirement and one semester of U.S. government with a grade of B or better for the Institutions requirement.

- One course taken at another collegiate institution before you enter Berkeley will not fulfill both AH&I requirements. A separate course must be taken for each.

- Passing the high school Advanced Placement American History exam with a score of 3 or better or the College Board Achievement Test in U.S. History with a score of 500 or better fulfills the American History requirement only.

**III. Students Who Entered Berkeley Before Fall 1981 may use any of the options listed under Section I above, with the following exceptions:**

- High school courses will not satisfy either the History or the Institutions requirement.

- The College Board Achievement Test will not satisfy the American History requirement.

- One course taken at another collegiate institution before you enter Berkeley will not fulfill both AH&I requirements. A separate course must be taken for each.

**IV. International Students:** The AH&I requirements will be waived if you have at least 90/2 semester units (senior status) and hold both a current, non-immigrant visa (F is the most common) and an I-94 departure record. You should present your visa and I-94 record to the Office of the Registrar, 120 Sproul Hall, before the semester in which you will graduate. International students intending to remain in the U.S. must fulfill the AH&I requirements.

**V. AH&I Office:** The office that administers these requirements is located in 120 Wheeler Hall, 642-5006. You may also visit our Web site at http://learning.berkeley.edu/AH&l/;
admission; (2) preparatory college-level courses for your particular field of study—to be completed, if possible, during your early period of residency in the college or school, or in some cases before entrance; (3) breadth requirements, courses outside the field of study, considered essential to a well-rounded curriculum; (4) the credit requirement, which is the total number of units to be completed, with specifications of how these credits are to be distributed; and (5) a minimum scholarship requirement. For detailed information, you should obtain a copy of the announcement of your college or school.

Reading and Composition Requirement
The Berkeley campus is strongly committed to developing high levels of ability in critical thinking and communication among its undergraduates. Hundreds of courses require long papers and a number of courses provide training in writing or speaking. In addition to the Universitywide Subject A requirement, the College of Letters and Science and most other colleges and schools require two semesters of lower division work in composition. The following departments and programs offer writing courses that satisfy the reading and composition requirement:

- African American Studies
- History of Art
- Asian American Studies
- Celtic Studies
- College Writing Programs
- Comparative Literature
- Dramatic Art
- English
- German
- Linguistics
- Native American Studies
- Rhetoric
- Scandinavian
- Slavic
- South and Southeast Asian Studies
- Undergraduate and Interdisciplinary Studies
- Women's Studies

In addition, a number of departments offer workshop sections of larger courses that satisfy only the second half of the reading and composition requirement. Such courses are marked with an "W" (for example, Linguistics 5W and Slavic Languages and Literatures 37W). Because each course has a slightly different focus, you should contact the individual departments for details and consult your college or school for the particular courses that satisfy its requirements.

Minimum Scholarship Requirement
If you fail to maintain the minimum grade-point average prescribed by your college or school, you will normally be dismissed or put on probation. Since scholarship rules are applied only at the close of regular sessions, grade points that you earn in a University of California summer session or by removing an incomplete grade are not taken into consideration until the close of your next semester of attendance.

Residence Requirement
After you have completed 90 units toward the bachelor's degree, you must complete at least 24 of the remaining units in residence in no fewer than two semesters in the college or school of the University in which you will take your degree. You must begin these final 24 units in the semester in which you exceed 90 units. You should consult the announcement of your college or school for details concerning the senior residence requirement as it pertains to the summer session.

Departmental Requirements
Every student must select a field of concentration and pursue a major or curriculum, normally by taking a minimum number of units in one department or school. Occasionally—as with business administration, optometry, and others—the school and the department are synonymous. In some cases a major may embrace more than one department, as with the interdisciplinary studies field major in the College of Letters and Science.

Major Requirements
Major requirements that must be fulfilled before you may receive a baccalaureate degree are outlined in each department in the "Courses and Curricula" section of this catalog. See also your department adviser.
1996: New head football coach Steve Mariucci leads the Bears to an Aloha Bowl berth before accepting a post-season offer to become head coach with the San Francisco 49ers.

1997: The Bears make it all the way to the Sweet 16 of the NCAA basketball tournament with a 23-9 record under first-year head coach Ben Braun.

1998: Cal captures its eighth consecutive national rugby crown with a 34-15 victory over Stanford and their second straight NCAA men's gymnastics title on the heels of a 23-0 record.

**Declaration of Candidacy**

If you know at the beginning of a semester that you will have fulfilled graduation requirements by the end of the semester, enter the appropriate code during the first call to the Tele-BEARS registration system. You may also declare your candidacy in person in the Office of the Registrar, 120 Sproul Hall. The period for declaring candidacy is the first five weeks of the semester. Up to the end of the third week, you can declare with no fee, and from the third to the end of the fifth week there is a $5 fee. If for any reason you do not meet the requirements for graduation after declaring your candidacy, you must file a new declaration in the filing period for the subsequent semester in which the degree will be awarded.

If you are an unregistered student at the time you are ready to declare your candidacy, you may go in person to 120 Sproul Hall to fill out the form "Candidate for Bachelor's Degree" or call 643-6173. The filing deadline is the same as that stated above.

**General Rules and Academic Policies**

See also the section "Academic Policies," beginning on page 77.

**Academic Probation**

Regulations and procedures governing academic probation vary with each college and school. For specific details, consult your college or school announcement. Students on probation are not entitled to take courses with a passed/not passed option.

**Academic Dismissal**

Regulations and procedures governing academic dismissal vary with each college and school. For specific details, consult your college or school announcement. If you are dismissed, you may appeal for a hearing by formal petition to the dean of your college or school, but the action of dismissal is normally considered final. If you are dismissed and want to transfer to another college or school at Berkeley, you may petition the dean of that college or school.

**CAL Quiz**

No. 8

What was the tallest proposed site for student housing on campus? (Answer on page 456.)
Minimum Progress

For undergraduates, normal progress toward a degree requires 30 units of successfully completed course work each year. If you fail to achieve minimum academic progress, you may continue to be enrolled only with the approval of the dean of your college or school. To achieve minimum academic progress, you must have successfully completed a number of units no fewer than 15 times the number of semesters, less one, in which you have been enrolled on the Berkeley campus. Summer Session is not counted as a semester. A course load of 15 units per semester is considered normal. Minimum course load requirements, however, vary by college or school; see the specific college or school announcement for details. If you enroll in a course load of fewer units than the minimum, you will need to have your schedule approved by the dean of your college or school.

Progress Toward a Degree

At the close of each semester, the courses, units, grades, and grade points earned are added onto your cumulative University record. From this record, you may determine your progress toward a degree.

In working for a degree, you should keep in mind the various levels on which you must satisfy requirements—University, campus, college or school, and department—as well as the kinds of requirements you must fulfill: course, unit, grade point, and amount of upper division work. You may receive additional counsel in these matters from your adviser.

Academic Opportunities

Cross-Registration Programs with Other Schools

Berkeley has cross-registration programs with California State University, Hayward; Mills College; San Francisco State University; Sonoma State University; College of Holy Names; J. F. Kennedy University; and Dominican College. With the approval of your adviser and the dean of your school or college, you may register and pay applicable fees at Berkeley and be exempt from tuition and fees at the host campus. You may enroll for only one course per semester at the host campus.

In addition to these established programs, any Berkeley student may attend a class each semester at any one of the campuses of the California state university or the community college systems. Under these programs, students from the other institutions can also attend classes at Berkeley. Students participating in this exchange program may be subject to a $10 administrative fee, depending on the institution. Berkeley currently does not require this fee of students from the other state campuses.

For more information, go to the Office of the Registrar, 120 Sproul Hall, or call Special Registration at 642-1988.

Studying Abroad

A shrinking world and expanding communication technology have made it increasingly important for practitioners in many fields to be able to function in an international context. The Education Abroad Program (EAP) at Berkeley offers a broad spectrum of opportunities for students to gain first-hand experience living in other cultures while progressing toward their bachelor’s degrees. EAP offers a diverse array of programs across all the major disciplines in more than 35 countries, and students earn University credit for their participation while enhancing their undergraduate experience.

Options include semester-long, year-long, and summer programs. Some programs do not require foreign language proficiency. Financial aid recipients qualify for financial assistance while abroad on EAP, and the costs of many of the programs are less than those incurred by students who remain on the Berkeley campus. Some scholarship and grant money is available specifically for EAP students, so do not let financial hardship discourage you from considering education abroad among your individual educational goals.

For further information, consult your academic advisers and the Education Abroad adviser in the Berkeley Programs for Study Abroad office, 160 Stephens Hall, 642-1356. E-mail: eapcucb@uclink4.berkeley.edu. Web sites: http://www.uoeap.ucsb.edu or http://www.ias.berkeley.edu/bpsa/.

Studying abroad is about incredible people, exciting places, growing up, and seeing more. For a year, I had an entire continent as a classroom away from Cal. For me, this experience was an amazing package deal.

EAP participant in Leeds, England (English major)

New Education Abroad programs are continually being developed to respond to student interests and a changing world. In the photo at left, a junior Education Abroad student in Glasgow, Scotland, visits the National Cemetery in Edinburgh.
Programs Not Sponsored by the University of California

Many Berkeley undergraduates choose to attend overseas study programs sponsored by institutions and organizations other than the University of California. To obtain information about these programs, you should contact the programs directly. Directories of study abroad programs are available at the office of Berkeley Programs for Study Abroad, 160 Stephens Hall, 642-1356. Credit for course work completed may or may not be granted, depending on a review of your final transcript by the Office of the Registrar. Before enrolling in any program, you should consult with the international admission specialists, 110 Sproul Hall, 642-3246, concerning the transferability of the course work for a particular program. Finally, you should consult with a college and major adviser as to the appropriateness of your proposed courses toward degree progress and procedures for readmission.

The Berkeley-Washington Program

The UC Berkeley-Washington Center hosts 15-20 selected undergraduates from all majors during the fall and spring of each year. The academic program allows students to combine course work at the UC Washington Center with field research in an internship that reflects each student’s particular area of interest. All participants will be registered as full-time Berkeley students and will remain eligible for financial aid as long as they meet the minimum number of units. Applicants must have a minimum 3.0 GPA and have achieved junior status by the start of their semester in Washington. Applicants must take at least two upper-division courses on the Berkeley campus in the area they will pursue in Washington.

For more information, contact the UC Berkeley-Washington Program office, M13 Wheeler Hall, 642-9102. E-mail: ucdc@socrates.berkeley.edu.

Research and Internships

Berkeley offers many opportunities for you to conduct research projects and engage in internships either as volunteers or paid employees.

The Office of Undergraduate Research (OUR) seeks to involve undergraduates more deeply in the research life of the University. To this end, OUR coordinates and develops programs and resources that bring undergraduates into the field, the laboratories, and the archives. Whether assisting faculty with research or pursuing their own research under faculty supervision, Berkeley students can experience what it means to be a part of cutting-edge research at a world-class research university. For information on the great variety of undergraduate research opportunities at Berkeley, visit the Research@Berkeley home page at http://research.berkeley.edu/.

The Undergraduate Research Apprentice Program (URAP) is the ideal place for students to begin to put their classroom learning to use. As research appren-
Cal Connections
Liberal arts, sciences, natural resources, environmental design, and business administration majors may apply through this office. Positions are paid, full- or part-time, and last for one semester or as long as two years. For general requirements, contact Cal Connections, Career Center, 2111 Bancroft Way, 642-1532. For further information, visit our Web site at http://career.berkeley.edu.

Engineering Cooperative Education Program
All engineering, computer science, and chemical engineering majors may apply through this office. Positions offered are full-time, paid, for a minimum of one semester. For general requirements, contact the Engineering Co-op Office, 306 McLaughlin Hall, 642-6385. For further information, visit our Web site at http://www.coe.berkeley.edu/coop.

Honors Courses
Berkeley offers some honors courses for highly qualified students, usually in their senior year. A few of these courses are available to lower division students. See your major adviser for information.

Individual Majors
If you have interests that fall outside traditional disciplines, you may design your own major to satisfy your individual academic goals. See an adviser for assistance and more information.

Freshman Seminar Program
The Freshman Seminar Program arose from the conviction that early intellectual contact with faculty members would greatly enhance the freshman experience at Berkeley. Professors from nearly every campus department have joined together to offer an impressive array of seminars. The courses numbered 24 (and in some cases 90) bear 1 unit of credit; they are limited to 15 students, and freshmen are given priority for enrollment. The other lower division seminars, most of which are numbered 39, are limited to 25 freshmen and sophomores. Seminars, which emphasize interaction and discussion, provide a counterpoint to the learning experience in Berkeley's large lecture halls. These seminars also offer lower division students an unprecedented opportunity to explore a wide range of majors and even fields of study usually reserved for graduate students. As you browse through this catalog, you will find lower division seminars sponsored by Letters and Science departments as well as by the professional schools and colleges.

A brochure describing each semester's seminar offerings is mailed to each freshman in time for Tele-BEARS registration. For more information regarding the Freshman Seminar Program, please contact the Office of Undergraduate Programs, 333 Campbell Hall, 642-8378 or visit the Web site at http://ls.berkeley.edu/ugis/fsf/fsf.html.

CAL Quiz
No. 9
Who proposed building a ski lift on campus, and, given the absence of snow, for what purpose?
(Answer on page 456.)
**Cal Songs**

**Hail to California**

Hail to California,  
Alma Mater dear  
Sing the joyful chorus,  
Sound it far and near  
Rallying 'round her banner,  
We will never fail  
California Alma Mater,  
Hail! Hail! Hail!

All hail! All hail!  
Whose hearts are strong  
We rally to the song  
All hail! Blue California  
All Hail California Alma Mater  
Sound the trumpet sound  
Cal Rallying for thee  
Hail California, Mater dear  
'Round her banner we'll never fail!

---

**de-cal: Student-Initiated Courses**

The de-cal (Democratic Education at Cal) program promotes leadership and encourages students to initiate classes and internships that will help maximize their educational experience at Berkeley. The program offers students opportunities to sample diverse disciplines for 1-4 units of credit on a passed/not passed basis. It also provides a forum for more advanced, focused study. The program encourages academic interests outside of the boundaries of established disciplines and has a long history of progressive, socially responsible courses. As well as mainstream subjects, de-cal courses are ideal for explorations into issues of culture, race, ethnicity, and gender. They may also involve internships aimed at transforming theoretical knowledge into practical experience. For more information, contact the de-cal office at 320 Eshleman Hall, 642-9127.

**Advising and Academic Assistance**

**College and Department Advisers**

The College of Letters and Science has a staff of professional advisers who will help you plan your course of study, fulfill requirements, and eventually choose a major. After you have chosen a major, you will be assigned to an adviser who is a faculty member in your major department. Outside the College of Letters and Science, your adviser will most likely be a faculty member.

**Student Learning Center**

The Student Learning Center, located in 198 Golden Bear Center, 642-7332, offers assistance and noncredit courses in reading, writing, and study skills and preparation for examinations. While priority is given to underrepresented and Educational Opportunity Program students, everyone is welcome.

**Student Athletes**

Academic Services for Student Athletes, located in 128 Golden Bear Center, offers academic support services and advising for Berkeley's student athletes. Services are geared to ensuring academic achievement through tutoring, study tables, computer labs, and staff advisers. For more information, call 642-8402.

**Honors at Graduation**

To be eligible for honors in general scholarship at graduation, you must have completed a minimum of 50 semester units at the University of California, of which a minimum of 43 units must be undertaken for a letter grade: completed a minimum of 30 units at Berkeley; and achieved a grade-point average that ranks you in your school or college in the top 3 percent for highest honors, the next 7 percent for high honors, and the next 10 percent for honors. These criteria are minimal; consult your college or school office.

**Honor Societies**

Berkeley has a number of honor societies that elect students in recognition of academic excellence. Among these are Phi Beta Kappa, a national honor society; the Prytanean Society, founded in 1900 to honor upper division and graduate women for academic accomplishment and service to the University; the Honors Students Society; Tau Beta Pi, the national honor society for all engineering disciplines and various other engineering honor societies (see the Student Guide to Engineering Societies, available at the Engineers Joint Council office); Alpha Mu Gamma, a national society for students with demonstrated excellence in languages; and individual societies in most language departments. See your adviser for more information.

**Prizes**

Awards for outstanding ability in some area of creative, scholarly, or athletic achievement are available at Berkeley in two general categories: competitive prizes for creative effort or departmental awards for outstanding scholastic achievement. Consult Undergraduate Scholarships, Prizes, and Honors, 642-3498, for more information.

**Scholarship Connection**

Scholarship Connection coordinates applications for scholarships and awards based on academic achievement and social or political contribution. The most prestigious of these are the Rhodes, Marshall, and Truman Scholarships.

A database and reference materials are available for undergraduates searching for on- and off-campus scholarship support. Awards are available for students at every class level, but students are urged to begin investigating these resources early in their college careers. For more information, contact Lisa Ohashi, 345 Campbell Hall (643-6929) or visit the Web site at http://scholarships.berkeley.edu.

---

**Academic Excellence**

**Semester Honors**

To be eligible for semester honors, you must have completed a minimum of 12 units undertaken for letter grades at Berkeley and must have achieved the minimum grade-point average required by your school or college. Schools and colleges may establish additional criteria that you must also meet.
The University's first library was in the Bacon Art and Library Building (also pictured behind the Campanile on this catalog's cover). The library served the young University until 1911, when Doe Library opened. Renamed Bacon Hall, the building housed the departments of Geology and Geography until it was razed to permit construction of another building.
A Selection of Books About Berkeley

Fiction
Clarkson Crane
David Lodge
Changing Places
George R. Stewart
Earth Abides
Nonfiction
Ansel Adams and Nancy Newhall
Reinhard Bendix
Susan Curny
William Warren Ferrier
Origin and Development of the University of California. Berkeley: Sather Gate Book Shop, 1930.
David Pierpont Gardner
J. L. Heilbrun, Robert W. Seidel, Bruce R. Wheaton

(continued on next page)

Graduate Education

The main purpose of graduate study is to inspire independence and originality of thought in the pursuit of knowledge. As a graduate student you are expected to achieve mastery of your chosen field through advanced course work, independent study, and research. Graduate education embraces study for all degrees and certificates beyond the bachelor's degree—principally

the master's and doctor's degrees. Graduate degrees fall into two broad categories: (1) Professional—degrees awarded by each professional college and school in recognition of a student's command of a comprehensive body of professional knowledge and the ability to organize and carry out investigation of significant problems in the field. (2) Academic—degrees awarded by the academic departments, some professional schools, and interdisciplinary graduate groups in recognition of a student's command of a wide range of related subjects within an academic field, preparation in one or more foreign languages, and ability to pursue original research leading to a significant contribution to a field of study.

These graduate degree programs have been approved by the Graduate Council and the Coordinating Committee on Graduate Affairs, which must approve any new programs. A list of graduate degrees appears later in this section. For complete information on regulations and procedures for graduate students, see the section "Academic Policies," beginning on page 77.

The Nature of Graduate Education

Graduate study is the pursuit of knowledge through advanced course work and research. Graduate courses demand a capacity for critical analysis and a specialization of research interests not normally appropriate for an undergraduate major. These courses may be conducted in a number of ways: (1) as advanced lecture courses; (2) as seminars in which faculty and students present critical studies of selected problems within the subject field; (3) as independent study or reading courses; or (4) as research projects conducted under faculty supervision.

You are accorded considerable liberty in your choice of courses, at the discretion of your graduate adviser, as long as you meet the minimum requirements for academic residence. These courses assume adequate preparation at the upper division level in the subject field (a minimum of 12 units of upper division work basic to the subject matter of the graduate course; this basic work may be pursued in more than one department). You are therefore encouraged to take upper division courses that will give you the background you need for advanced work; you are not confined to graduate courses. Possession of a bachelor's degree does not in itself entitle you to enroll in a graduate course.

Graduate Advisers

Graduate advisers are appointed by the dean of the Graduate Division for each department, school, or group and are announced before the beginning of the fall semester. Graduate advisers (1) assist students in selecting programs of study; (2) act on petitions for study list changes only; (3) maintain records of all students enrolled under their jurisdiction; and (4) supply information requested by the dean of the Graduate Division about a student's progress. In addition, the chair of the graduate advisers (1) endorses applications for candidacy for higher degrees and for qualifying examinations; (2) acts on readmission applications and petitions by graduate students; and (3) assists the dean in the enforcement of regulations, particularly those relating to registration, admission to graduate courses, and maintenance of acceptable scholastic performance.

You may also have an individual or major adviser, usually assigned after you are advanced to candidacy for the doctorate, but frequently appointed in the earlier stages of your training. The individual or major advisers may be the same as the official graduate advisers. You should keep in close touch with your individual adviser and should confer with your official graduate adviser at the beginning of each semester to obtain approval of your program of study.
Graduate Admissions

Applying for Admission

You must file a completed application for admission, as well as all additional documents specified in the application booklet (including official transcripts from each college-level institution you previously attended) with the department to which you are applying by the established deadlines. You also must submit a non-refundable application fee of $40 to the Cashier’s Office. Follow the instructions in the application packet, which you should request from the department of your choice.

Many departments admit students only for the fall semester. Information on departmental deadlines and requirements is contained in the application packet.

Each department may set its own deadlines within the following ranges: December 15 - January 5, if you are applying for both the fellowship competition and admission for fall semester (Please note: fellowships are awarded only at the beginning of the fall semester); December 15 - February 10, for admission only for the fall semester; and September 1, for admission to the spring semester. The School of Law admits only for the fall semester; the deadline is February 1.

Limited Enrollment

Each graduate program at Berkeley has a maximum enrollment, which limits the number of applicants who may be accepted. Almost invariably, this maximum is smaller than the number of applicants who meet the minimum qualifications for admission. Selection procedures are designed to admit applicants in accordance with their relative merit and promise among those at least minimally qualified. It is to your advantage to inquire early about the possibility of study at Berkeley.

Admissions Requirements

The University requires the following academic qualifications: (1) a degree from an accredited institution, comparable to the bachelor’s degree offered at Berkeley; (2) sufficient undergraduate training to undertake graduate study in the chosen field; and (3) a satisfactory scholastic average. In addition to the general University requirements, certain schools or departments may require additional records, such as separate applications, reading lists, examples of original work, or the results of qualifying examinations. Information on undergraduate requirements for a major field and on graduate programs and requirements is available in the school or departmental announcements and bulletins and in the “Courses and Curricula” section of this catalog.

Graduate Record Examination

Applicants for graduate admission (with certain exceptions listed below) are required to take the General Test of the Graduate Record Examination (GRE) and to have their scores on this examination reported by the Educational Testing Service. Although current test scores are preferred, reports up to five years old—but not older—will be accepted.

If you are applying to the UCB-UCSF Joint Medical Program, you are not required to take the GRE but must take the MCAT (Medical College Admission Test).

If you are applying to the Haas School of Business/ M.B.A. Program, you must take the Graduate Management Admission Test (GMAT) in place of the Graduate Record Examination.

If you are applying to the School of Law for the J.D. degree, you must take the Law School Admission Test (LSAT) rather than the GRE.

Teaching Credential applicants (Single Subject only) are not required to take the GRE. However, applicants for the M.A.T. degree must fulfill the GRE requirement.

The GRE is offered in two formats: The traditional paper-and-pencil test and the computer-based test. Either format is acceptable. If you choose the paper-
and-pencil test, registration must be received about four weeks before the test date. Computer-based tests may be scheduled by telephone.

You may obtain applications for the GRE and GMAT from the Educational Testing Service, Box 6000, Princeton, NJ 08541-6000, from its western office at P.O. Box 23470, Oakland, CA 94623-0470, or on the World Wide Web at http://www.gre.org.

The GRE Board provides a fee waiver service for students. To be eligible, you must be: 1) a United States citizen or resident alien; 2) a senior receiving financial aid through an undergraduate college in the United States, Puerto Rico, or U.S. Territories; and 3) a student who meets the GRE Board financial-need guidelines. Consult your undergraduate financial aid office for information.

International Applicants
Applicants who come from a country in which the official language is English or who have studied for one year or more in schools or universities in which English is the language of instruction must take the General Test of the Graduate Record Examination. In general, others applying from countries outside the United States need not submit GRE scores unless their major departments so require.

International applicants must fulfill all previously stated admissions requirements and have an excellent command of English before beginning graduate study at Berkeley; students cannot be admitted to graduate standing to learn English. If you are applying from a country in which English is not the official language, you must take the Test of English as a Foreign Language (TOEFL) and have the results sent directly to the Graduate Admissions Office. The TOEFL is administered in two formats, paper-and-pencil and computer-based. Either format is acceptable. Register as soon as possible by contacting your Regional Registration Center or TOEFL Services, Educational Testing Service, P.O. Box 6151, Princeton, NJ 08541-6151, USA. You may also register on the World Wide Web at http://www.toefl.org.

The results of institutional administrations of the TOEFL are not acceptable in lieu of the international or special center administrations. If you took the test more than two years ago, you must take it again. Please refer to the application packet for specific cutoff dates.

If you would like to serve as a graduate student instructor, you should take the Test of Spoken English (TSE) in your country or the Speaking Proficiency English Assessment Kit (SPEAK) at Berkeley as soon as you arrive. For information on registering to take the TSE, contact the TOEFL/TSE agent in your country or at the address given above. International students with bachelor's degrees from the United States or from a country in which the language of instruction is English and students who will be teaching in their native language are exempt from the test requirement.

A list of exempted countries is available from the Graduate Student Instructor Teaching and Resource Center, University of California, Berkeley, 301 Sproul Hall #5900, Berkeley, CA 94720-5900. The TSE is not a requirement for admission.

Beginning in fall 2000, all non-native speakers of English wishing to apply for a GSI appointment are required to comply with protocols available on the Graduate Division Web site at http://www.grad.berkeley.edu/grad/.

Special Circumstances

Readmission
If you have previously registered and withdrawn and want to re-enroll, you must file an Application for Readmission, obtainable from Graduate Degrees, Graduate Division, 302 Sproul Hall, and pay a nontransferable, nonrefundable readmission fee of $40. This fee must accompany the Application for Readmission when first submitted, or the application will not be reviewed. Approval of readmission is not automatic. The Graduate Division and your department, school, or group will review your petition and academic record and notify you of their decision.

Duplication of Higher Degrees
Normally, duplication of doctoral-level degrees is not permitted. Your department may petition the dean of the Graduate Division for an exception to this policy if the degree you want is in a field of study distinctly dif-
different from the field in which you attained your original degree. A professional degree is not regarded as duplication of an academic degree.

Reactivation of Application
The Graduate Division keeps application materials on file for two years. If you filed an application within the past two years but did not complete the application process, were denied admission, or were admitted but did not register, you may reactivate your previous file by submitting a new application form by the established deadline for the semester in question.

The first reactivation is free. Thereafter, the current application fee is required. A request for reconsideration in another major field for the same semester does not constitute a reactivation of application.

Notification of Action on Admission
A written notice from the dean of the Graduate Division is the only valid proof of admission. Admission to graduate study is limited by the number of places available in the various colleges, schools, graduate groups, and departments of Berkeley. If you have applied for admission and fellowship consideration, you should be notified by April 1 of the action on your applications. If you have applied for admission only, you will be advised as soon as possible after a decision has been reached. Normally, however, acceptance letters for admission only will not be issued until after March for the fall semester.

Registration and Enrollment in Classes

Tele-BEARS
Tele-BEARS is an interactive computer system that allows you to enroll in classes by using a touchtone telephone or a computer connected to the World Wide Web. A recorded human voice on the telephone version instructs you when to respond and what to enter for each transaction. Because Tele-BEARS is interactive, you always receive the most immediate, up-to-the-moment information regarding your registration and class enrollment.

How Tele-BEARS Works
To ensure the fairest possible distribution of courses to the student body, enrollment in classes is spread over two phases and an adjustment period. Phase I, starting toward the end of the previous semester, allows you to enroll in a maximum of 12 units plus one physical education activity course. In Phase II, starting immediately after Phase I, you may complete your enrollment by enrolling in additional courses if necessary. You may then add and drop courses during the adjustment period, which starts one week before instruction and extends through the first three weeks of instruction.

Access to Tele-BEARS is regulated by pre-assigned appointments which are spread throughout each phase period. For security purposes, you are assigned a unique Personal Identification Number (PIN) which must be entered after your Student ID number in order to use Tele-BEARS.

To enroll and register through Tele-BEARS, follow these steps:

Receive Your Registration Form
A Tele-BEARS registration form indicating your PIN and appointment times will be mailed to you by the Office of the Registrar.* If you require academic advising, you also will be required to obtain an Adviser Code (AC) from your graduate adviser. The AC must be entered when you first access Tele-BEARS each semester. If you will be a readmitted student, you will also be mailed a Schedule of Classes, which lists the meeting times and locations of all courses to be given at Berkeley for the semester.

Enroll in Classes
With the Schedule of Classes and the General Catalog, you can determine a class schedule. Once you have selected your classes and have obtained your AC from your major adviser (if required), you can use Tele-BEARS to enroll.

Pay Registration Fees
A monthly billing statement indicating all University fees due will be mailed to you by the Loans and Receivables Office. You may pay your fees in full or in five installments on the Deferred Payment Plan. Fee payment (either in full or the first installment) is due on July 15 for the fall semester and December 15 for the spring semester.

The Deferred Payment Plan
You may pay your registration fees in five installments if you wish. A nonrefundable processing fee will be charged to your first installment. Your billing statement will indicate the amount due for the first payment; subsequent statements for the remaining payments will be mailed to your local address on file with the Office of the Registrar. For full information on the Deferred Payment Plan, read the billing statement or call the Loans and Receivables Office at 642-3190.

Obtain Your Confirmed Class Schedule
At the end of Phase II, the Office of the Registrar will produce a Confirmed Class Schedule indicating all classes for which you have enrolled through Tele-BEARS. You must obtain your schedule from your major department office.

*Registration forms for continuing and readmitted students will be mailed starting mid-March for the fall semester and mid-October for the spring semester. Forms for new students will be distributed to departments in early August for the fall semester and early January for the spring semester. (See “Special Information for New Graduate Students” on page 54.)
Berkeley’s Nobel Tradition

1939: Ernest Lawrence (now deceased), professor of physics, wins Nobel Prize for physics.
1945: John Northrop (now deceased), professor of bacteriology and biophysics, wins Nobel Prize for chemistry.
1951: Edwin McMillan and Glenn Seaborg (both deceased), professors of chemistry, win Nobel Prize for chemistry.
1961: Melvin Calvin (now deceased), professor emeritus of chemistry, wins Nobel Prize for chemistry.

(continued on next page)

Info-BEARS

Info-BEARS is Berkeley’s information retrieval system and an adjunct to Tele-BEARS. With Info-BEARS, you can obtain your final grades for the previous term, the status of your financial aid application, your current class schedule, enrollment restrictions for a particular course, and much more. Info-BEARS is available 24 hours a day, 7 days a week, except from 6 a.m. to 7 a.m. Monday through Saturday, and from 5 a.m. to noon on Sunday. You can access Info-BEARS by telephone at 642-9400 or on the Web via the Office of the Registrar’s Web site at http://registrar.berkeley.edu:4202. For more information, see the Schedule of Classes.

Bear Facts

Bear Facts is an online computer system that provides information regarding your registration, grades, financial aid, billing, class schedule, and more. You can access Bear Facts on the Web at http://bearfacts.berkeley.edu. For more information, see the Schedule of Classes.

Statement of Intention to Register

The admission letter to new (including reactivating) graduate students contains a Statement of Intention to Register that must be filled out and returned to the Graduate Admissions Office. Only the return of the form to the Graduate Admissions Office indicating an intention to register will reserve the registration slot allocated to you. If you want to retain a record of the return of your Statement of Intention to Register, you should send it by certified or registered mail. If you do not want to accept the offer of admission, you should complete and return the Declination of Admission section so that your place can be allocated to another applicant. Information about enrolling in classes will be mailed to you after receipt of your Statement of Intention to Register accepting admission.

Failure to Register

If you do not return the Statement of Intention to Register or return it but do not register for the semester in which you were admitted, you must request reactivation of your application if you want to attend any subsequent semester. You have no priority over other applicants for any subsequent semester by virtue of your previous admission.

Registration

To maintain good standing as a graduate student, you must register with the Office of the Registrar each semester until you complete all requirements for the degree, unless you have permission from the dean of the Graduate Division to withdraw. You can satisfy the requirement for full-time continuous registration by attending both semesters of an academic year. You must be registered or pay the filing fee, whichever is applicable, for the semester in which your degree is conferred. If you hold a nonimmigrant visa, you must be registered for both semesters of each academic year unless you have special permission from the Immigration Service to do otherwise. Consult the International Student Adviser for further information.

In summary, you must register in any semester in which you are enrolled in formal courses of instruction or are making any use of University facilities, including access to the faculty, except for uses accorded the general public.

If your studies or research requires absence from California for the semester, you must file a petition requesting absence and a reduction of the University registration fee with Graduate Degrees, 302 Sproul Hall.

Special Information for New Graduate Students

If you will be a new graduate student, you will not use Tele-BEARS until the adjustment period, starting one week before the beginning of instruction. You must obtain your registration form from your major department and meet with your graduate adviser to approve your class schedule and obtain your Adviser Code.

Cancellation of Registration

Students who have registered and decide before classes begin not to attend Berkeley may cancel by filing the appropriate form. For further information see the section “Academic Policies,” beginning on page 77.

Class Schedule and Unit Load

Courses are classified as lower division (numbered 1 through 99); upper division (100-199); graduate (200-299); professional, for teachers or prospective teachers (300-399); special study for preparation for the master’s exam (601); and special study for preparation for the doctoral qualifying exam (602). Lower division courses are not counted as part of a full program of study leading to a higher degree. You must be enrolled in 12 units in 200 series (or above) to be considered a full-time student. (For information on courses in the 600 series, see page 79.)

Graduate student instructors and graduate student researchers must normally carry a minimum of 8 units in the 100, 200, and 300 series. The substitution of lower division units taken to prepare for departmental requirements in languages, mathematics, or statistics for upper division units is permitted.

Fellowship holders and international students on non-immigrant visas must carry a full program of 12 units in upper division and/or graduate courses, although individual study in the form of language preparation, comprehensive and qualifying examination preparation, etc., for the Ph.D. degree is taken into account.

In these cases reduced unit loads are accepted as full programs with the consent of the graduate adviser and dean of the Graduate Division.

Berkeley has more top-ranked doctoral programs than any university in the nation, according to a September 1995 report by the National Research Council (NRC). Faculty peers from around the country, using such criteria as quality of research, publications, and teaching, ranked 35 of 36 Berkeley Ph.D. programs in the top 10 of their fields. The NCR study took four years to complete and is considered the most comprehensive of all reports on graduate education. Below are Berkeley's rankings.

**Anthropology**
1. Michigan
2. Chicago
3. Berkeley
4. Harvard
5. Arizona
6. Penn
7. Stanford
8. Yale
9. UCLA
10. UC San Diego

**Art History**
1. Columbia
2. NYU
3. Berkeley
4. Harvard
5. Yale
6. Princeton
7. Johns Hopkins
8. Northwestern
9. Penn
10. Chicago

**Astrophysics/Astronomy**
1. Caltech
2. Princeton
3. Berkeley
4. Harvard
5. Chicago
6. UC Santa Cruz
7. Arizona
8. MIT
9. Cornell
10. Texas (Austin)

**Biochemistry & Molecular Biology**
1. UCSF
2. MIT
3. Stanford
4. Berkeley
5. Harvard
6. Yale
7. Caltech
8. Wisconsin
9. UC San Diego
10. Johns Hopkins
10. Columbia

**Biomedical Engineering**
1. MIT
2. UC San Diego
3. Washington
4. Duke
5. Penn
6. Johns Hopkins
7. UCSF
8. Berkeley
9. Utah
10. Rice

**Comparative Literature**
1. Berkeley
2. Harvard
3. Columbia
4. Harvard
5. Princeton
6. Cornell
7. Johns Hopkins
8. Yale
9. Stanford
10. Berkeley

**Computer Science**
1. Stanford
2. MIT
3. Berkeley
4. Carnegie Mellon
5. Cornell
6. Stanford
7. University of Texas (Austin)
8. Illinois
9. Washington
10. Wisconsin

**Ecology, Evolution & Behavior**
1. Stanford
2. MIT
3. Berkeley
4. California
5. MIT
6. Cornell
7. Caltech
8. Stanford
9. Northwestern
10. Minnesota

**Economics**
1. Chicago
2. Harvard
3. MIT
4. Stanford
5. Princeton
6. Berkeley
7. Peabody
8. Northwestern
9. Minnesota

**Electrical Engineering**
1. Berkeley
2. Princeton
3. Cornell
4. Harvard
5. Yale
6. Stanford
7. Washington University
8. Virginia
9. Johns Hopkins
10. Wisconsin

**English**
1. Berkeley
2. Yale
3. Harvard
4. Virginia
5. Duke
6. Stanford
7. Berkeley
8. Cornell
9. Michigan
10. Chicago

**FRENCH**
1. Yale
2. Princeton
3. Duke
4. Columbia
5. Penn
6. Stanford
7. Berkeley
8. Cornell
9. Michigan
10. UC Irvine

**History**
1. Yale
2. Berkeley
3. Princeton
4. Penn
5. Stanford
6. Chicago
7. Johns Hopkins
8. Wisconsin
9. Stanford
10. Berkeley

**Industrial Engineering**
1. Georgia Tech
2. Berkeley
3. Purdue
4. Michigan
5. Texas A&M
6. Northwestern
7. Stanford
8. Virginia Poly
9. Penn State
10. Wisconsin

**Linguistics**
1. MIT
2. Stanford
3. UCCLA
4. UMass (Amherst)
5. Penn
6. Berkeley
7. Paris
8. Maryland
9. Stanford
10. UC Santa Cruz

**Materials Science**
1. MIT
2. Northwestern
3. Stanford
4. Berkeley
5. Illinois
6. Stanford
7. UC (Berkeley)
8. UCSC
9. Penn State
10. Penn

**Mathematics**
1. Berkeley
2. Princeton
3. Cornell
4. Harvard
5. Yale
6. Stanford
7. Berkeley
8. Yale
9. NYU
10. Michigan

(continued on next page)
Berkeley Faculty
1997-98
Full-time, ladder-rank: 1,661
Male: 77%
Female: 23%
Ethnic minority: 16%
Tenured: 80%
Nobel laureates: 7
National Academy of Sciences: 120
National Academy of Engineering: 76
American Academy of Arts and Sciences: 198
Guggenheim fellows: 140
MacArthur fellows: 22
Fulbright scholars: 110
Pulitzer Prize winners: 3
Alfred P. Sloan faculty fellowships, 1984-98: 48
National Medal of Science, 1982-98: 26
Endowed chairs: 209

Graduate Student Ethnicity 1997
Asian American: 1,226
Caucasian: 4,664
Hispanic: 511
African American: 314
Native American: 71
Filipino: 80
Other: 347
International: 1,339

<table>
<thead>
<tr>
<th>Mechanical Engineering</th>
<th>Physics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. MIT</td>
<td>2. Princeton</td>
</tr>
<tr>
<td>4. Caltech</td>
<td>4. MIT</td>
</tr>
<tr>
<td>5. Michigan</td>
<td>5. Caltech</td>
</tr>
<tr>
<td>7. Cornell</td>
<td>7. Chicago</td>
</tr>
<tr>
<td>10. UC San Diego</td>
<td>10. UCSB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Molecular/General Genetics</th>
<th>Political Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MIT</td>
<td>1. Harvard</td>
</tr>
<tr>
<td>2. UCSF</td>
<td>2. Berkeley</td>
</tr>
<tr>
<td>3. Harvard</td>
<td>3. Yale</td>
</tr>
<tr>
<td>5. Stanford</td>
<td>5. Stanford</td>
</tr>
<tr>
<td>6. UC San Diego</td>
<td>6. Chicago</td>
</tr>
<tr>
<td>7. Wisconsin</td>
<td>7. Princeton</td>
</tr>
<tr>
<td>8. Yale</td>
<td>8. UCLA</td>
</tr>
<tr>
<td>10. Berkeley</td>
<td>10. Wisconsin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Music</th>
<th>Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Harvard</td>
<td>1. Stanford</td>
</tr>
<tr>
<td>2. Chicago</td>
<td>2. Michigan</td>
</tr>
<tr>
<td>4. CUNY</td>
<td>4. UCLA</td>
</tr>
<tr>
<td>5. Yale</td>
<td>5. Illinois</td>
</tr>
<tr>
<td>7. Penn</td>
<td>7. Minnesota</td>
</tr>
<tr>
<td>8. Rochester</td>
<td>8. Penn</td>
</tr>
<tr>
<td>10. Berkeley</td>
<td>10. UC San Diego</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neurosciences</th>
<th>Sociology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. UC San Diego</td>
<td>1. Chicago</td>
</tr>
<tr>
<td>2. Yale</td>
<td>2. Wisconsin</td>
</tr>
<tr>
<td>4. UCSF</td>
<td>4. Michigan</td>
</tr>
<tr>
<td>5. Stanford</td>
<td>5. UCLA</td>
</tr>
<tr>
<td>8. Washington Univ.</td>
<td>8. Stanford</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spanish and Portuguese</th>
<th>Statistics/Biostatistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Columbia</td>
<td>1. Berkeley (Stat)</td>
</tr>
<tr>
<td>2. Duke</td>
<td>2. Stanford</td>
</tr>
<tr>
<td>5. Virginia</td>
<td>5. Cornell</td>
</tr>
<tr>
<td>6. Penn</td>
<td>6. Chicago</td>
</tr>
<tr>
<td>7. Wisconsin</td>
<td>7. Washington (Biostat)</td>
</tr>
<tr>
<td>10. MIT</td>
<td>10. Purdue</td>
</tr>
</tbody>
</table>

Professional Schools
In 1998, US News & World Report published results of a study ranking professional programs at U.S. universities on the basis of reputation plus such factors as median starting salary after graduation and percentages of graduates employed several months after graduation. Below are rankings of the schools and programs that Berkeley offers.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>1. Harvard</td>
</tr>
<tr>
<td>2. MIT</td>
<td>3. Princeton</td>
</tr>
<tr>
<td>4. Columbia</td>
<td>5. Yale</td>
</tr>
<tr>
<td>6. Rice, Berkeley, Virginia</td>
<td></td>
</tr>
<tr>
<td>7. Berkeley (Haas)</td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>1. Harvard, Stanford</td>
</tr>
<tr>
<td>3. Columbia, MIT (Sloan), Penn (Wharton)</td>
<td></td>
</tr>
<tr>
<td>6. Northwestern (Kellogg), Chicago</td>
<td></td>
</tr>
<tr>
<td>8. Dartmouth (Tuck), UCLA</td>
<td></td>
</tr>
<tr>
<td>10. Berkeley (Haas)</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>1. Columbia, Berkeley</td>
</tr>
<tr>
<td>Engineering</td>
<td>1. MIT</td>
</tr>
<tr>
<td>2. Stanford, Berkeley</td>
<td></td>
</tr>
<tr>
<td>Law</td>
<td>1. Yale</td>
</tr>
<tr>
<td>2. Harvard, Stanford</td>
<td></td>
</tr>
<tr>
<td>4. Columbia, Chicago</td>
<td></td>
</tr>
<tr>
<td>6. NYU</td>
<td>7. Berkeley</td>
</tr>
<tr>
<td>Public Health</td>
<td>1. Johns Hopkins</td>
</tr>
<tr>
<td>2. Harvard, North Carolina</td>
<td></td>
</tr>
<tr>
<td>6. Berkeley</td>
<td></td>
</tr>
<tr>
<td>Social Work</td>
<td>1. Michigan, Washington (MO)</td>
</tr>
<tr>
<td>3. Berkeley, Chicago</td>
<td></td>
</tr>
</tbody>
</table>
Withdrawal

If you want to withdraw from Berkeley at the end of a semester or while the semester is in progress, you must file a formal withdrawal. For further information, see the section “Academic Policies,” beginning on page 77.

Graduate Degrees and Certificates

Academic degrees are the M.A., M.S., M.F.A., and Ph.D. All other degrees and certificates are professional. The J.D. in Law is the basic law degree. It is a graduate degree, and if interested you should apply directly to the School of Law.

Graduate degrees and certificates are listed below:

- African American Studies, M.A.,* Ph.D.
- Agricultural and Environmental Chemistry, M.S., Ph.D.
- Agricultural and Resource Economics, M.S.,* Ph.D.
- Ancient History and Mediterranean Archaeology, M.A., Ph.D.
- Anthropology, M.A.,* Ph.D.
- Applied Mathematics, Ph.D.
- Applied Science and Technology, M.S.,* Ph.D.
- Architecture, M.S., M.Arch., Ph.D.
- Art, M.F.A.
- Asian Studies, M.A., Ph.D. * M.A. program emphases: East Asian, Southeast Asian, South Asian†
- Astrophysics, M.A.,* Ph.D.
- Biophysics, M.A.,* Ph.D.†
- Biostatistics, M.A., Ph.D.
- Buddhist Studies, Ph.D.
- Business Administration, M.B.A., M.S.,* Ph.D.
- Chemical Engineering, M.S., Ph.D.
- Chemistry, M.S.,* Ph.D.
- Chinese Language, M.A., Ph.D.
- City and Regional Planning, M.C.P., Ph.D.
- Classical Archaeology, M.A., Ph.D.
- Classics, M.A., Ph.D. M.A. program emphases: Greek, Latin
- Comparative Biochemistry, M.A., Ph.D.†
- Comparative Literature, M.A., Ph.D.
- Computer Science, M.S., Ph.D.
- Demography, M.A., Ph.D.
- Design (Visual), M.A.
- Dramatic Art, M.A.,* Ph.D.
- Economics, M.A.,* Ph.D.
- Education, Teaching Credential, M.A., M.A.T., Ph.D., Ed.D.
- Endocrinology, M.A., Ph.D.†
- Energy and Resources, M.A., M.S., Ph.D.†

- Environmental Health Sciences, M.S., Ph.D.†
- Environmental Planning, Ph.D.
- Environmental Science, Policy, and Management, M.S., Ph.D.
- Epidemiology, M.S., Ph.D.†
- Ethnic Studies, M.A.,* Ph.D.†
- Folklore, M.A.†
- Forestry, M.F.
- French, M.A., Ph.D.
- Geography, M.A.,* Ph.D.
- Geology, M.A., M.S., Ph.D.
- Geophysics, M.A., M.S., Ph.D.
- German, M.A., Ph.D.
- Greek, M.A.
- Health and Medical Sciences, M.S. Program emphases: Genetic Counseling, UCB-UCSF Joint Medical Program
- Health Services and Policy Analysis, Ph.D.†
- Hispanic Languages and Literatures, M.A., Ph.D.
- History, M.A., Ph.D.
- History of Art, M.A.,* Ph.D.
- Human Biodynamics (see Integrative Biology) Infectious Diseases and Immunity, M.S., Ph.D.
- Information Management and Systems, M.I.M.S., Ph.D.
- Integrative Biology, M.A.,* Ph.D.
- Italian Studies, M.A., Ph.D.
- Japanese Language, M.A., Ph.D.
- Jewish Studies, Ph.D. (Joint degree program with Graduate Theological Union)
- Journalism, M.J.
- Jurisprudence and Social Policy, M.A.,* Ph.D.
- Landscape Architecture, M.L.A.
- Latin, M.A.
- Latin American Studies, M.A., Ph.D.
- Law, J.D., LL.M., J.S.D.
- Linguistics, M.A., Ph.D.
- Logic and the Methodology of Science, Ph.D.†
- Mathematics, M.A., Ph.D.
- Medical Anthropology, Ph.D. (Joint degree program with UC San Francisco)
- Microbiology, Ph.D.†
- Molecular and Cell Biology, M.A.,* Ph.D.
- Music, M.A., Ph.D.
- Near Eastern Religions, Ph.D. (Joint degree program with the Graduate Theological Union)

*Students are not admitted to work for the M.A./M.S. degree, although it may be awarded to students pursuing work toward the Ph.D. degree after fulfillment of the appropriate M.A./M.S. requirements.
† Indicates established interdisciplinary group or field.

Overheard on tennis court near campus:

“I may have tenure, but you have youth.”
“Ah, but you have wisdom.”
“If I had wisdom, I wouldn’t have hit the ball down the center of your court.”
—Anon

CAL Quiz
No. 12
California’s official state gemstone is found only in California. What is its name and color, and how is Berkeley associated with its discovery?

(Answer on page 456.)
Noted Alumni
1868-1899

James H. Budd, 1873
Governer of California, 1895-99. Strong supporter of public education. Noted for his dedication to public service and commitment to California. From one cent to two cents per $100 of taxable property in the state.

Jacob Reinstein, 1873
UC regent, served on jury for campus architectural plan sponsored by Phoebus Apperson Hearst, instrumental in successful effort to increase state allocations to UC in 1897.

George Edwards, 1873
Professor of mathematics, 1874-1918. Edwards Field and Stadium named after "Colonel" Edwards.

Rosa Letitia Scrivner, 1874
First female graduate, only female member of the class; committee of Scrivner and eight women in Class of 1876 selected colors blue and gold for the University.

Josiah Royce, 1875
Eminent philosopher, professor at Harvard, California historian; Royce Hall at UCLA named in his honor.

Florence Prag, 1887
Described in Blue and Gold yearbook as "guileless and inexperienced"; later, as Florence Prag Kahn, served as US representative from California.

Franklin Lane, 1887
US Secretary of the Interior, 1913-20

(continued on next page)

Near Eastern Studies, M.A., Ph.D.
Neuroscience, Ph.D.†
Nutrition, M.S., Ph.D.†
Philosophy, M.A., Ph.D.
Physics, M.A., Ph.D.
Plant Biology, M.S., Ph.D.
Political Science, M.A., Ph.D.
Psychology, M.A., Ph.D.
Public Health, M.P.H., Dr.P.H.
Public Policy, M.P.P., Ph.D.
Range Management, M.S.†
Rhetoric, M.A., Ph.D.
Romance Languages and Literatures, Ph.D. Emphases:
French, Italian, Spanish†
Romance Philology, Ph.D.†
Scandinavian Languages and Literatures, M.A., Ph.D.
Science and Mathematics Education, Ph.D.†
Slavic Languages and Literatures, M.A., Ph.D.
Social Welfare, M.S.W., Ph.D.
Sociology, M.A., Ph.D.
South and Southeast Asian Studies, M.A., Ph.D. M.A. program emphases: Hindi-Urdu, Malay-Indonesian, Sanskrit, Tamil, and South Asian Civilization; Ph.D. program emphases: Hindi-Urdu, Malay-Indonesian, Sanskrit, Tamil, and South Asian Archaeology
Special Education, Ed.D., Ph.D. (Joint degree program with San Francisco State University)
Statistics, M.A., Ph.D.
Urban Design, M.U.I.D.
Vision Science, M.S., Ph.D.†
Wood Science and Technology, M.S., Ph.D.†

Certificate in Russian and East European Studies
The Certificate in Russian and East European Studies has been developed to serve graduate students in the humanities and social sciences who wish to broaden their knowledge of the Russian and East European area. To be eligible you must be in good academic standing and currently enrolled in a graduate program at Berkeley in a field related to the Russian/East European area. The program is to include at least 18 semester units in three or more disciplines, not including that in which you have received or are planning to receive your master's or doctoral degree. Advanced language courses in grammar, composition, or conversation may not be used to fulfill this requirement. Of the 18 required units, at least 6 must be at the 200 level; the remaining units may be at the 100 or 200 level. Applications and further information about the certificate program are available at the Center for Slavic and East European Studies, 561 Stephens Hall.

Certificate of Completion of Residency Program in Optometry
The School of Optometry offers an Optometric Residency Program leading to the Certificate of Completion. This is a 12-month program of graduate professional training in an optometric specialty area selected by the residents, and is designed to expand and refine their professional and specialty skills. The prerequisite for entrance is a Doctor of Optometry degree. For information, contact the Residency Director, School of Optometry, Minor Hall #2020, 642-2402, or send e-mail to optres@spectacle.berkeley.edu.

Master of Arts in Teaching
The degree of Master of Arts in Teaching is offered by the School of Education jointly with the Department of English. If you are a candidate you must satisfy all requirements for certification to teach in California, in addition to completing academic training in one of the subject fields. You should direct inquiries to the appropriate academic department and to the School of Education.

Joint Doctoral Programs
There are two intercampus joint degree programs between Berkeley and the University of California, San Francisco: Bioengineering and Medical Anthropology. For Bioengineering you should apply to the Berkeley campus. You will have access to facilities and faculty on both campuses. For Medical Anthropology, you should apply to the campus most appropriate to your research interests, but you will have access to facilities and faculty on both campuses through intercampus exchange registration. For information, write to the Department of Anthropology or the Group in Bioengineering.

Graduate Theological Union
There are two kinds of programs that include the faculties of the Graduate Theological Union (GTU) in Berkeley: the "casual program" and the joint Ph.D. programs.

The casual program is open to all students in the GTU community and all graduate students at Berkeley. This program allows you to register on one campus and take courses on the other, subject to the appropriate academic approvals. You may obtain applications and deadlines from Graduate Degrees, 302 Sproul Hall.

The Joint Doctoral Program is offered in two areas and is open only to students who intend to work toward the Ph.D. degree. You must be admitted to both the Graduate Theological Union and the University, because the degrees are conferred jointly by both institutions.

To apply to Near Eastern Religions, you must first have an M.A. (or its equivalent) in Near Eastern Studies or in a related field and must have at least two ancient languages suitable to the proposed program.

To apply to Jewish Studies, you must have an undergraduate preparation that includes at least six university-level courses in Jewish studies, at least two years of university-level Hebrew language courses or the equivalent, minimal proficiency in another foreign language,
and an undergraduate major in Jewish studies, history, comparative literature, sociology, philosophy, anthropology, political science, religious studies, or Near Eastern Studies.

You may use the extensive library holdings of the GTU and supplement your program with selected courses in Palestinian archaeology, Biblical studies, Semitic epigraphy, and philology. For information about the programs, a catalog, and application forms, write to the Graduate Theological Union, 2400 Ridge Road, Berkeley, CA 94709.

Special Education
A joint doctoral program in special education leading to either the Ph.D. degree or the Ed.D. degree is offered by the Berkeley campus and San Francisco State University. The program is interdisciplinary, including clinical experience as well as in-depth preparation in the behavioral sciences and in statistics and research methods. For application material and additional information, write to: Special Education, c/o School of Education, University of California, Berkeley, or Department of Education, San Francisco State University, 1600 Holloway Avenue, San Francisco, CA 94132.

Concurrent Degree Programs
Concurrent degree programs provide a broad integrated curriculum in which units are shared between two disciplines. You should direct inquiries to the departments or schools involved.

Architecture, M.Arch.—Civil and Environmental Engineering, M.S.
Architecture, M.Arch.—Landscape Architecture, M.L.A.
Asian Studies, M.A.—Law, J.D.
Business Administration, M.B.A.—Asian Studies, M.A.
Business Administration, M.B.A.—Law, J.D.
Business Administration, M.B.A.—Law, J.D. (Berkeley)
Business Administration, M.B.A.—Law, J.D. (Davis)
Business Administration, M.B.A.—Law, J.D. (Hastings)
Business Administration, M.B.A.—Public Health, M.P.H.
City and Regional Planning, M.C.P.—Civil and Environmental Engineering, M.S.
City and Regional Planning, M.C.P.—Law, J.D. (Berkeley)
City and Regional Planning, M.C.P.—Law, J.D. (Hastings)
City and Regional Planning, M.C.P.—Public Health, M.P.H.
Economics, M.A.—Law, J.D.
Journalism, M.J.—Asian Studies, M.A.
Journalism, M.J.—Latin American Studies, M.A.
Journalism, M.J.—Law, J.D.
Landscape Architecture, M.L.A.—City and Regional Planning, M.C.P.
Public Health, M.P.H.—School of Medicine, San Francisco, M.D.

Public Policy, M.P.P.—Engineering, M.S.
Public Policy, M.P.P.—Law, J.D.
Public Policy, M.P.P.—Public Health, M.P.H.
Social Welfare, M.S.W.—Law, J.D.

International and Area Studies
The Graduate Group in International and Area Studies (IAS) offers M.A. degrees in conjunction with graduate degree programs in professional schools and Ph.D. programs in the social science disciplines. Only current graduate students may apply. No freestanding degree in IAS is offered.

Designated Emphasis
The designated emphasis is a specialization, such as a new method of inquiry or an important field of application, that is relevant to two or more existing doctoral degree programs. Approved by the Graduate Council in 1992, the designated emphasis is designed to complement Ph.D. programs in the humanities and social sciences. It provides opportunities for interdisciplinary study with faculty from other departments. For a list of current designated emphases, see page 67.

Teaching Credentials
Courses leading to the multiple subject or single subject teaching credentials are offered on the Berkeley campus. For details, please consult the Announcement of the School of Education.

Requirements for Graduate Degrees

The Master's Degree
Berkeley offers instruction leading to both academic and professional degrees. For specific regulations governing the professional master's degrees, see the individual announcements of the colleges and schools. This section will deal primarily with the academic master's degree.

Residence Requirement
A minimum of two semesters of academic residence is required for the master's degree. Academic residence is defined as enrollment in at least 4 units in 100-200 series courses. Specific subject requirements and performance levels are set by the schools, departments, and groups.

Transfer of Credit from Other Institutions
To request a transfer of units, ask your graduate adviser to make a formal request to the dean of the Graduate Division specifying the units and courses involved. Your credits may be transferable if (1) the units involved are equivalent to work normally offered within your current program of study, (2) the grade record-
ed was at least a B, and (3) you have a superior scholastic record (at least a 3.3) at both your original institution and at Berkeley. No more than 4 semester or 6 quarter units are transferable, and the work must have been completed previously in graduate status at an institution of high standing. The units transferred cannot be used to reduce the minimum required in the 200 series courses or the minimum residence requirement.

Work that formed part of the program for a master's degree previously conferred (either at the University of California or elsewhere) may not be applied toward a current degree program.

Credit for graduate work that you completed on other campuses of the University of California may be granted in excess of 6 quarter units or 4 semester units. Requests are handled on an individual basis.

**Concurrent Enrollment—University Extension**

Courses taken concurrently through University Extension but held on the Berkeley campus under the instruction of a regular member of the Berkeley faculty are generally not applicable toward a Berkeley master's degree. These courses are intended to provide Extension students with an opportunity to take courses that would not ordinarily be available to them. Concurrent enrollment cannot replace normal registration by Berkeley graduate students, nor may it be used to accumulate credit toward a Berkeley degree by an individual not formally admitted to graduate standing at Berkeley. An exception may be made for you only if there is clear evidence that you were concurrently enrolled through Extension while in graduate standing at another institution and with the intent of applying the units earned toward a graduate degree at that institution. Exceptions must be fully justified by the graduate adviser and will require special approval by the dean of the Graduate Division.

**Amount and Distribution of Work**

If you work toward an academic master's degree on the Berkeley campus, you will pursue one of two plans, as determined by your school, department, or group. (Units may adopt either or both plans and will, in the latter case, designate which plan you are to follow.)

**Plan I** requires at least 20 semester units of upper division and graduate courses and a thesis. At least 8 of these units must be in graduate courses (200 series) in your major subject. Course units are not granted for the thesis.

**Plan II** requires at least 24 semester units of upper division and graduate courses, followed by a comprehensive final examination administered by your school, department, or group. At least 12 of the units must be in graduate courses in your major subject.

Your graduate adviser will guide you regarding distribution of course work among departments. Please note that departments, schools, and groups may have performance standards that are higher than the minimum B average required by the Graduate Division. Further requirements are specified by the major department.

**Advancement to Candidacy**

When you complete the requirements for your degree, you will not automatically be admitted to candidacy for the master's degree; you must make a formal application to the dean of the Graduate Division no later than the fifth week of the semester in which your degree will be awarded. The application must be approved by the chair of graduate advisers in your major school, department, or group and must include a precise statement of the studies on which the application is based. If you are to submit a thesis, however, you should consult your advisor as early as possible about advancement to candidacy so that the appropriate committee can be formed. You will not receive the degree unless you have been advanced to candidacy.

**The Master's Thesis**

If you are following Plan I, described above, you must submit a thesis, double-spaced on approved paper, with a minimum left-hand margin of 1 1/2 inches. Consult the Degrees staff in the Graduate Division for required brands of paper.

The thesis must be unbound and without perforations. The type must be adequate for photographic reproduction. Following approval by your thesis committee, two copies are filed with the Graduate Division. Further information regarding the organization and format of the thesis is available from Graduate Degrees, 302 Sproul Hall, or visit the Web site at http://www.grad.berkeley.edu/grad/.

The thesis constitutes a report, in as brief a form as possible, of results obtained in an original investigation of a problem. The problem in question need only be of limited scope; however, the thesis should be comparable in style, organization, and depth of understanding to investigations of greater scope, such as the dissertations of doctoral candidates.

You must submit your thesis to a committee of three members of the faculty appointed by the dean of the Graduate Division. One member of the committee should be chosen from a department other than that of your major subject. You are required to confer with all members of your committee before beginning your thesis; since the committee is not appointed until you are advanced to candidacy, you should not begin thesis work before advancement in order to avoid extensive revisions. You are responsible for placing the completed thesis in the hands of your committee members.

Three years is the normal time period allowed for completion of the thesis. Candidacy for the master's degree will lapse automatically at the end of that time. You can be reinstated, however, upon the recommendation of the graduate adviser to the dean at the time your thesis committee members have approved a final draft of your thesis.
If all three members of your committee approve the thesis, they sign your thesis title page. You then file two copies of the thesis with the Graduate Division for later deposit in the University library. If any member of your committee doubts the acceptability of the thesis, the committee chair convenes the committee to discuss it. If the committee reaches agreement on its acceptability, the thesis is signed and filed as described above.

If the committee continues to disagree, the thesis is sent to the dean of the Graduate Division with a brief statement of each committee member’s opinion. If all members of the committee reject the thesis, it is sent to the dean with a statement to that effect by the committee chair. In all cases of rejection or split vote, the Administrative Committee of the Graduate Council makes the final decision.

The Doctoral Degree

Berkeley offers both academic and professional degrees. Professional degree programs are outlined in the individual announcements of the colleges and schools offering them. The general procedures given in this section apply primarily to the academic doctoral degree.

The Doctor of Philosophy degree is not granted solely for fulfilling technical requirements such as residence and completion of specified courses; it is awarded in recognition of a student’s knowledge of a broad field of learning and for distinguished accomplishment in that field through an original contribution of significant knowledge and ideas. The student’s research must reveal high critical ability and powers of imagination and synthesis.

Programs of Study

Programs of study for doctoral degrees are more individualized than those for master’s degrees, permitting more specialization within a field or the establishment of connections among fields. Nevertheless, if you are seeking a doctoral degree, you must have your program of study approved by the graduate adviser of the department or group to which you are admitted or later transferred. University policy requires continuous registration from entrance until receipt of the degree, unless a formal withdrawal is granted by the dean of the Graduate Division.

Your field of study may be in a single department, except for essential related courses in other departments; in several departments; or in an interdisciplinary group. Once you have chosen a field of study, you should confer with your graduate adviser to select the sequence of courses that will best prepare you for qualifying examinations and research work.

Residence Requirement

A minimum of two years or four semesters of academic residence is required for the Ph.D. degree. Academic residence is defined as enrollment in at least 4 units in 100-200 courses. The period during which you are allowed to be in candidacy is limited; after its expiration your candidacy for the degree will lapse. You should consult your department or the Graduate Division for the time permitted in candidacy.

Foreign Language Requirement

The foreign language requirement ensures that you have the ability to acquire wide knowledge in your field of study and to keep up with foreign developments in your field. You are urged to complete the foreign language requirement early in your graduate career. You must fulfill the foreign language requirement before admission to the qualifying examinations and advancement to candidacy. Each graduate program may have somewhat different foreign language requirements. If you are a prospective student, you are urged to inquire about the foreign language requirement as soon as possible and, if you can, to fulfill it while still an undergraduate. In some graduate programs, applicants for admission must have fulfilled the foreign language requirement before applying.

Qualifying Examinations

Before you are admitted to candidacy, you must pass a qualifying examination administered by a four- or five-member committee approved by the Graduate Council. An oral component is required. You must be registered in the semester in which you take the examinations, and you must have removed any previous deficiencies in training, including incomplete grades, in courses that your graduate adviser required for your program. You must have maintained at least a B average in all course work that you undertook in graduate status, and you must have fulfilled the language requirement(s).

Please note: Departments, schools, and groups may have performance standards that are higher than the minimum B average required by the Graduate Division.
John Najarian, M.D., '48
Pioneer in the development of kidney transplant operation techniques; star football tackle

Zulfikar Ali Bhutto, '50
President of Islamic Republic of Pakistan, 1971-77; recipient of 1973 Haas International Award

Allen Broussard, '50, J.D.'53
Justice, California Supreme Court, 1981-91; 1992 alumnus of the year

Jackie Jensen, '50
All-America football and baseball player for the Bears in the late 1940s and possibly Cal's finest all-around athlete ever; 11-year career with the New York Yankees, Boston Red Sox, and Washington Senators; named American League most valuable player in 1958

Don Fischer, '51
Chair, "The Gap" clothing store chain

Edwin Meese III, J.D. '58
U.S. Attorney General in mid-1980s

Norman Mineta, '53
Member, US House of Representatives

Joan Didion, '56
Author of A Book of Common Prayer, Play It as It Lays, and other books

Bill Bixby, '57
Actor, director; star of television's My Favorite Martian and The Incredible Hulk

Joe Kapp, '59
All-America football player; member, Cal and National Football League halls of fame; Cal football coach, 1982-86

(continued on next page)

Advancement to Candidacy
You must apply for advancement to candidacy, on a form furnished by the Graduate Division, no later than the semester following the one in which you passed your qualifying examination. The completed form, bearing the endorsement of your graduate adviser chair and dissertation chair, is filed with the Graduate Division. You must pay a fee of $50 when you file the application, and you must have completed all requirements for the doctoral degree except the dissertation before you may be advanced to candidacy.

Normative Time—Doctoral Students
Normative time is defined as the elapsed calendar time in years that under normal circumstances would be needed to complete all requirements for the doctoral degree, assuming that a student is engaged in full-time, uninterrupted study and is making desirable progress toward the degree.

The primary goals of the Normative Time program are to provide incentives to both students and instructional units to reduce the average time taken to complete requirements for the doctoral degree, to facilitate a greater degree of continuity in doctoral studies, and to provide a more equitable assessment of fees for doctoral students advanced to candidacy. After advancement to candidacy, eligible students will receive a special grant to offset much of the cost of the educational fee. The Normative Time program is under review, and the conditions and grant program are subject to change.

The conditions of the Normative Time program are as follows:

1. Upon entry to a Berkeley graduate program, you proceed with course work in the normal fashion until you have completed all requirements for advancement to candidacy. During this period you are registered continuously, except for semesters on approved withdrawal status as appropriate, and are liable for payment of all fees and applicable tuition.

2. Once you have been advanced to candidacy for the doctoral degree, you become eligible in subsequent semesters for a fee offset grant paying part of the educational fee if you have not exceeded the normal time in candidacy for your discipline.

3. You are awarded the grant automatically each semester until your accrued time in graduate status exceeds the normative time set for your program of study. Accrued time is the number of semesters since you first registered, less a maximum of two semesters of approved withdrawal status, and any other adjustments that may be approved by the dean of the Graduate Division.

4. During the entire period of study, you must be registered continuously, except when you are on approved withdrawal status, or during the semester when the filing fee is used in lieu of registration. You will be informed of your eligibility and the number of semesters of fee offset grant support available to you when you are advanced to candidacy. Your application for advancement to candidacy for the doctoral degree must be received by the first day of instruction in the semester for which the first grant is awarded.

The following normative times in semesters have been established:

- African American Studies (10)
- Agricultural and Environmental Chemistry (13)
- Agricultural and Resource Economics (12)
- Ancient History and Mediterranean Archaeology (14)
- Anthropology (12)
- Applied Mathematics (11)
- Applied Science and Technology (11)
- Architecture (12)
- Asian Studies (10)
- Astronomy (12)
- Bioengineering (10)
- Biophysics (12)
- Biostatistics (10)
- Buddhist Studies (10)
- Business Administration (10)
- Chemical Engineering (10)
- Chemistry (10)
- City and Regional Planning (10)
- Classical Archaeology (14)
- Classics (14)
- Comparative Biochemistry (10)
- Comparative Literature (14)
- Computer Science (10)
- Demography (10)
- Dramatic Art (10)
- East Asian Languages: Chinese (12), Japanese (12)
- Economics (10)
- Education (12)
- Endocrinology (10)
- Energy and Resources (10)
- Engineering (10)
- Nuclear Engineering (12)
- English (12)
- Environmental Health Sciences (10)
- Environmental Planning (10)
- Environmental Science, Policy, and Management (10)
- Epidemiology (0)
- Ethnic Studies (12)
- French (12)
- Geography (12)
- Geology (10)
- Geophysics (10)
- German (12)
- Health Services and Policy Analysis (12)
- Hispanic Literatures (10)
- History: Modern Western Languages (12), Non-Western Languages (or Non-Indo-European) (14)
- History of Art (14)
- Human Biodynamics (12)
- Infectious Diseases and Immunity (10)
- Information Management and Systems (12)
- Integrative Biology (10)
- Italian Studies (12)
The Graduate Council requires all doctoral students who have been advanced to candidacy to meet annually with at least two members of their dissertation committees to discuss progress during the last year and to set goals for the next. Students who are away from campus may complete the evaluation by mail.

Departments may use their own form or one developed by the Graduate Division for this purpose. A copy of the evaluation must be forwarded to the Graduate Division, 302 Sproul Hall.

Annual Review of Doctoral Candidates

The format of the doctoral dissertation is similar to that outlined in the section on the master’s thesis. Further information is available from the Graduate Division, or from its Web site at http://www.grad.berkeley.edu/grad/.

The dissertation, the product of independent investigation under faculty supervision, must be submitted to the committee in charge (see below) and must receive both its approval and the approval of the Graduate Council. The dissertation is the most important requirement for the doctoral program; the degree is never granted for completion of course work only, no matter how extensive.

You are to work under one of two plans, as adopted by the department, school, or group:

Plan A: The Administrative Committee of the Graduate Council appoints a committee of five Academic Senate members which determines whether you have met the requirements for the degree. Three members of the committee, one of whom must be from a department other than that of your major subject, guide you in research and judge the merits of your dissertation. The entire committee conducts a final oral examination dealing with the relationship between your dissertation and the general field of study in which the subject of the dissertation lies. Admission to the final oral examination may be restricted to the members of the committee, members of the Academic Senate, and guests of equivalent rank from other institutions.

Plan B: The Administrative Committee of the Graduate Council appoints a committee of three Academic Senate members, one of whom must be from a department other than that of your major subject, to guide you in research and judge the merits of your dissertation. This committee may require any necessary conferences to elucidate the subject treated in the dissertation. After presentation of the dissertation but before final action is taken upon it, the committee may, if necessary, require you to defend the dissertation in a formal oral examination.

After your committee has approved your dissertation, two copies must be filed with the Graduate Division by a deadline specified by that office. You must also file an abstract of the dissertation, no longer than 350 words and signed by the committee chair.

See the “Master’s Thesis” section for procedures to be followed if committee members disagree about the acceptability of your dissertation.

The Doctoral Dissertation

The Candidate’s Degree

The degree “Candidate in Philosophy,” which gives formal recognition to a definite state of progress toward the doctorate, may be awarded when you are advanced to candidacy for the Ph.D. degree. The list of graduate degree programs that award the “Candidate in Philosophy” degree is available from Graduate Degrees, 302 Sproul Hall.

Annual Review of Doctoral Candidates
Michael Boskin, '67, Ph.D., '71
Chair, Presidential Council of Economic Advisors; 1989-93; professor, Stanford University

Alice Waters, '67
Founder/owner, Chez Panisse restaurant; internationally famous chef

Mary Pipher, '69
Author of "Reviving Ophelia" and other books

Leigh Steinberg, '70, J.D., '73
Sports agent

Jerry Mathers, '74
Star of "Leave It to Beaver," quintessential family television comedy of the '50s

Steve Wozniak, '76
Co-founder of Apple Computers

Joan Abrahamson, J.D., '83
Sports agent

James Schamus, '82
Screenwriter and co-producer, "The Wedding Banquet," "Eat Drink Man Woman," "Sense and Sensibility"

Scott Adams, '86
Creator of cartoon "Dilbert"

Kevin Johnson, '87
National Basketball Association all-star with the Phoenix Suns

Mary T. Meagher, '87
Two-time Olympic swimmer, winner of three gold medals; world record in 200-meter butterfly is longest-held in swimming; 1987 national collegiate woman athlete

Matt Biondi, '88
Three-time Olympian, winner of 8 gold medals and 11 total medals

Programs using Plan A and Plan B are listed below.

Plan A
- Buddhist Studies
- Interdisciplinary Program
- Logic and the Methodology of Science
- Near Eastern Religions
- Romance Philology
- South and Southeast Asian Studies

Plan B
- African American Studies
- Agricultural and Environmental Chemistry
- Agricultural and Resource Economics
- Ancient History and Mediterranean Archaeology
- Anthropology
- Applied Mathematics
- Applied Science and Technology
- Architecture
- Asian Studies
- Astronomy
- Bioengineering
- Biophysics
- Biostatistics
- Business Administration
- Chemical Engineering
- Chemistry
- City and Regional Planning
- Classical Archaeology
- Classics
- Comparative Biochemistry
- Comparative Literature
- Computer Science
- Demography
- Dramatic Art
- East Asian Languages
- Economics
- Education
- Endocrinology
- Energy and Resources
- Engineering
- Engineering Science
- English
- Environmental Health Sciences
- Environmental Planning
- Environmental Science, Policy, and Management
- Epidemiology
- Ethnic Studies
- French
- Geography
- Geology
- Geophysics
- German
- Health Services and Policy Analysis
- Hispanic Languages and Literatures
- History
- History of Art
- Human Biodynamics
- Infectious Disease and Immunity
- Information Management and Systems
- Integrative Biology
- Italian Studies

Jewish Studies
Jurisprudence and Social Policy
Latin American Studies
Linguistics
Mathematics
Medical Anthropology
Microbiology
Molecular and Cell Biology
Music
Near Eastern Studies
Neuroscience
Nutrition
Paleontology
Philosophy
Physics
Plant Biology
Political Science
Psychology
Public Health
Public Policy
Rhetoric
Romance Languages and Literatures—Emphases:
- French
- Italian
- Spanish
Scandinavian Languages and Literatures
Science and Mathematics Education
Slavic Languages and Literatures
Sociology
Special Education
Statistics
Vision Science
Wood Science and Technology

Minimum Requirements
All the procedures and regulations described above and in the preceding section on master's degrees constitute the minimum requirements for higher degrees, as set by the Graduate Division. Each academic department may adopt additional requirements, as approved by the dean of the Graduate Division and the Graduate Council, according to the demands of its field of study.

Academic Opportunities

Exchange Programs
Berkeley students participating in any of the following exchange programs, with the exception of the Inter-campus Exchange Program, will not automatically receive credit for taking course work at the host campus. The courses will be posted in the memorandum column of your transcript. If you want to transfer units, see page 59, "Transfer of Credit from Other Institutions." No more than 4 semester or 6 quarter units are transferable toward the master's degree.

Inter-campus Exchange Program
If you are a graduate student registered on any campus of the University, you may go to another campus of the University as an Inter-campus Exchange Graduate Student with the approval of your graduate adviser, the chair of the department in which you want to study, the dean of the Graduate Division on the home cam-
pus, and the dean of the Graduate Division on the host campus.

You may obtain an application form for the Intercampus Exchange Program for Graduate Students from the office of the dean of the Graduate Division on your home campus. You should complete and file the application form at least three weeks before the opening of the term of enrollment on the host campus. (Please note that all other UC campuses are on the quarter system.)

This privilege is available to graduate students who would like to associate with scholars or fields of study not available on the home campus, or who seek the use of special facilities and collections. Whenever possible, you should make personal arrangements with faculty members on both campuses to ensure that the courses, seminars, or facilities will be available to meet your needs. This privilege will be granted where there is evidence of serious and high-quality scholarship.

As an intercampus exchange student, you register and pay fees on your home campus but have library, health services, and other student privileges on your host campus. You should make arrangements with the Office of the Registrar to follow the enrollment procedure of the host campus so that the grades you obtain in courses taken on the host campus will be transferred to your record on the home campus. Exchange students are considered graduate students in residence on the home campus and are not formally admitted to the host graduate school and department. Unless specifically restricted, fellowship recipients may participate in the Intercampus Exchange Program.

Stanford-Berkeley Exchange Program
If you have a superior academic record, you may participate in the Stanford-Berkeley Exchange Program when it is considered desirable for you to take a limited number of courses that are offered at Stanford but not at Berkeley. Participation in the program must be approved by the Graduate Division and your department. Normally, you will not be allowed to participate in this program until you have completed a year of graduate study at Berkeley. Participants register and pay the applicable fees at Berkeley and are exempt from tuition and fees at Stanford. The same privilege is accorded to Stanford students who want to take courses at Berkeley. If you apply for this program, you must enroll in at least one course at Berkeley. You may obtain further information and an application form from Graduate Degrees, 302 Sproul Hall.

Exchange Program with Hayward, Mills, San Francisco, and Sonoma
You may also participate in exchange programs with California State University, Hayward; Mills College; San Francisco State University; and Sonoma State University. With the approval of the Graduate Division and your department, you may register and pay applicable fees at Berkeley and be exempt from tuition and fees at the host campus. You may enroll for only one course per semester at the host campus.
The Exchange Scholar Program

The Exchange Scholar Program is an experimental program designed to enable doctoral students with superior academic records to study at one of the participating institutions to take advantage of educational opportunities that are not available at Berkeley. Normally, you are eligible to become an exchange scholar only after you have completed one year in a Berkeley graduate degree program. You may take courses or conduct research with particular faculty at the host institution for no more than one year while remaining registered at Berkeley.

Participating institutions are Berkeley, Brown University, University of Chicago, Columbia University, Cornell University, Harvard University, Massachusetts Institute of Technology, University of Pennsylvania, Princeton University, Stanford University, and Yale University. You may obtain further information and application from Graduate Degrees, 302 Sproul Hall.

Please note: Guidelines for participation in the exchange program with Stanford University are outlined above under the Stanford-Berkeley Exchange Program.

Studying Abroad

Graduate students may participate in the University of California Education Abroad Program (EAP). EAP offers a diverse range of programs, most of which are available to graduate students, in more than 30 countries. Several of the programs do not require foreign language proficiency for participation. Approval from your department and from the Graduate Division is required. For further information, contact the office of Berkeley Programs for Study Abroad, 160 Stephens Hall #2302, University of California, Berkeley, CA 94720-2302, 642-1356; e-mail: capueb@uclink.berkeley.edu.

Interdisciplinary Groups

Berkeley has established graduate programs in a number of fields that cut across conventional departmental lines yet comprise distinct cores of knowledge. These programs are administered by groups of faculty from several related departments and, in certain instances, from several campuses. If you are enrolled in these programs, you can work with any faculty member in the group without having to pursue the particular discipline of the department with which the faculty member is associated. Moreover, this arrangement gives you access to a range of facilities not ordinarily open to students enrolled in departmental programs. In some cases (e.g., medieval studies), a faculty committee is appointed specifically to advise you and the interested departments on setting up a program that will best meet the departments’ and your views of the intellectual quality of the proposed programs. Since groups have no budgets or facilities of their own, however, most applicants, to be accepted by a particular group, must first obtain the sponsorship of one of its faculty members.

Following is a current list of graduate groups on the Berkeley campus:

Group in Agricultural and Environmental Chemistry
Professor Isao Kubo, Chair
c/o Department of Environmental Science, Policy, and Management
201 Wellman Hall #3112

Group in Ancient History and Mediterranean Archaeology
Professor Erich S. Gruen, Chair
3422A Dwinelle Hall #2600

Group in Applied Science and Technology
Professor Timothy D. Sands, Chair
c/o Materials Science and Mineral Engineering
559 Evans Hall #1760

Group in Asian Studies
Professor Robert R. Reed, Chair
2223 Fulton Street, Room 521, #2318

Group in Bioengineering
Professor Rajendra Bhattacharyya, Chair
c/o Engineering Interdisciplinary Studies
230 Bechtel Engineering Center #1708

Group in Biophysics
Professor Elud Isaacoff, Chair
271 Life Sciences Addition #3200

Group in Biostatistics
Professor David Brilling, Co-Chair
c/o Department of Statistics
417 Evans Hall #3860

Group in Buddhist Studies
Professor Padmanabha S. Jaimi, Chair
c/o Department of South and Southeast Asian Studies
342 Dwinelle Hall #2540

Group in Comparative Biochemistry
Professor Nancy K. Amy, Chair
c/o Department of Nutritional Sciences
127 Morgan Hall #3104

Group in Endocrinology
Professor Charles Nicoll, Chair
c/o Department of Integrative Biology
281 Life Sciences Addition #3140

Group in Energy and Resources
Professor John Hart, Chair
c/o Group Office, 310 Barrows Hall #3050

Group in Environmental Health Sciences
Professor Katharine Hammond, Chair
c/o School of Public Health
753 University Hall #7360

Group in Epidemiology
Professor Arthur Reingold, Chair
c/o School of Public Health
140 Warren Hall #7360

CAL Quiz
No. 14

Oski, the University’s spirit mascot, is a Golden Bear with some particular characteristics. Who plays Oski and what does he say when he appears at spirit rallies and athletic contests?

(Answer on page 456.)
Group in Ethnic Studies  
Professor Elaine H. Kim, Chair  
c/o Department of Ethnic Studies  
508A Barrows Hall #2570

Group in Folklore  
Professor Alan Dundes, Chair  
c/o Department of Anthropology  
232 Kroeber Hall #3170

Group in Health and Medical Sciences  
W. Thomas Boyce, Chair  
c/o Program Office  
570 University Hall #1190

Group in Health Services and Policy Analysis  
Professor James Robinson, Chair  
c/o School of Public Health  
418 Warren Hall #7360

Group in Infectious Diseases and Immunity  
Professor Richard S. Stephens, Chair  
c/o School of Public Health  
235 Warren Hall #7360

Group in International and Area Studies  
Professor Richard Buxbaum, Dean  
International and Area Studies  
101 Stephens Hall #2300

Group in Jewish Studies  
Professor Bluma Goldstein, Chair  
c/o Department of German  
M15 Wheeler Hall #3243

Group in Latin American Studies  
Professor Michael Johns, Chair  
c/o International and Area Studies  
101 Stephens Hall #2300

Group in Logic and the Methodology of Science  
Professor Stephen Neale, Chair  
c/o Department of Philosophy  
233 Moses Hall #2390

Committee on Medieval Studies  
Professor Geoffrey Koziol, Chair  
c/o Department of History  
3116 Dwinelle Hall #2550

Group in Microbiology  
Professor Bob B. Buchanan, Chair  
c/o Department of Plant and Microbial Biology  
11E Koshland Hall #3102

Group in Near Eastern Religions  
Professor Jeffrey Kuan, Chair  
c/o Department of Near Eastern Studies  
250 Barrows Hall #1940

Group in Neuroscience  
Professor Carla Shatz, Chair  
c/o Department of Molecular and Cell Biology  
121 Koshland Hall #3200

Group in Nutrition  
Professor Leonard Bjeldanes, Chair  
c/o Department of Nutritional Sciences  
127 Morgan Hall #3104

Group in Ocean Engineering  
Professor Mosta la Foda, Chair  
412 O’Brien Hall #1712

Group in Range Management  
Professor James Bartolome, Chair  
c/o Department of Environmental Science, Policy, and Management  
145 Mulford Hall #3114

Group in Romance Philology  
Professor Joseph J. Duggan, Chair  
c/o Department of French  
4415 Dwinelle Hall #2580

Group in Science and Mathematics Education  
Professor Barbara White, Chair  
c/o School of Education  
4533 Tolman Hall #1670

Group in Urban Design  
Professor Michael Southworth, Chair  
c/o Department of Landscape Architecture and Environmental Planning  
304 Wurster Hall #2000

Group in Vision Science  
Professor Martin S. Banks, Chair  
c/o School of Optometry  
506 Minor Hall #2020

Group in Wood Science and Technology  
Professor Frank Beall, Chair  
c/o Forest Products Laboratory  
478 Richmond Field Station

Advisory Group  
(not a degree program)

Committee for Certificate in Russian and East European Studies  
Professor Victoria Bonnell, Chair  
c/o Center for Slavic and East European Studies  
361 Stephens Hall

Designated Emphasis Groups  
Group in Women, Gender, and Sexuality  
Professor Caren Kaplan, Chair  
c/o Department of Women’s Studies  
3326 Dwinelle Hall #1070

Group in Film Studies  
Professor Tony Kaes, Chair  
c/o Film Studies  
7408 Dwinelle Hall #2670
Individual Doctoral Programs

To allow you to work in a field that, in its breadth, falls between that of a department and an interdisciplinary group, the Graduate Division permits the informal establishment of ad hoc programs leading to the Ph.D. degree. You will be considered for an interdisciplinary program only if you have completed at least two semesters of graduate study in a doctoral program on this campus and have shown superior academic performance in your graduate studies here. In these programs, you may prepare a proposal for a course of study under the sponsorship of five faculty members. Final approval of every individual graduate program and admission of each student into such a program must be granted by the Graduate Council. You must complete degree requirements in accordance with Plan A of the Graduate Council policies, and the degree is awarded in a field approved for you by the council.

Teaching and Research Appointments

Many departments make graduate student instructorships available to qualified graduate students, and departments, centers, and institutes often seek qualified graduate students for research appointments. For specific information see the section "Fees and Financial Aid," beginning on page 69.

Internships

A number of internships are available to graduate as well as undergraduate students. For information see "Research and Internships" on page 46.

General Rules and Academic Policies

A brief summary follows of some of the general rules and policies you are subject to as a graduate student. For more exhaustive coverage, see the section "Academic Policies," beginning on page 77.

Standards of Scholarship

You must receive a grade of A, B, C (including pluses and minuses), or S in your course work to satisfy degree requirements. You will not receive course credit for courses graded below C-. You must maintain a grade-point average of 3.0 in all upper division and graduate course work taken as a graduate student. Your department, school, or group may establish more stringent standards.

Probation and Dismissal

You are subject to probation and dismissal if your grade-point average falls below 3.0 or that required by your department, school, or group; if your written work is substandard; or if you fail to make adequate progress toward the degree. You may appeal dismissal to the Graduate Council of the Academic Senate. To obtain a copy of this policy, contact the Graduate Division, 302 Sproul Hall, 642-7330.

Normative Time

For information about normative time (the time needed to complete all requirements for the doctoral degree), see page 62.

Academic Residence

In order to meet the academic residence requirement for higher degrees—not to be confused with state residence, defined in the Appendix—every graduate student must enroll in and complete a minimum of 4 units of upper division and/or graduate courses per required semester of academic residence. Only courses in the 100 or 200 series satisfy this requirement.

Visiting Scholar and Postdoctoral Appointment Program

Berkeley is host to more than 2,000 visitors from other universities, colleges, research laboratories, and government agencies who conduct research using University facilities. The Visiting Scholar and Postdoctoral Appointment (VSPA) program was established to accommodate individuals with a Ph.D. or equivalent who desire to pursue their professional interests at Berkeley.

Appointments to this program are contingent upon the mutual interest and ability of a campus college, department, school, or organized research unit (ORU) to accommodate the visitor for the period of time desired.

The Graduate Division coordinates the VSPA program and serves as the central administrative office. However, there are seven decentralized VSPA authorizing units: Chemistry, Chemical Engineering, Education, Engineering, International and Area Studies, Law, and Natural Resources. Prospective visitors should communicate directly with the chair of the department, the dean of the college or school, or the director of the ORU to determine whether they meet the requirements for an appointment and whether facilities are available.

Postdoctoral appointments are reserved for recent Ph.D. recipients who received their degrees usually within the past five years and who have not yet been affiliated as a professor, associate professor, or assistant professor.

Visiting scholar appointments are for senior researchers and for those already in the professional series who possess a Ph.D. or equivalent and who are not employees of the University of California.

For information, contact the Office of the Dean, Graduate Division, 424 Sproul Hall, 642-5472, or e-mail vspa@uclink4.berkeley.edu. International visitors should communicate with Services for International Students and Scholars (see Index) for information on visa requirements.
The profile of Phoebe Apperson Hearst graces a medallion commemorating the international competition she underwrote in 1896 to develop an architectural plan for the University. Paris architect Émile Bénard, whose plan was adapted by John Galen Howard, won the competition.
Financial Aid 1997-98

Undergraduates receiving financial aid: 67%

Percent of financial aid that is need-based: 83%

Average amount awarded: $10,950

Financial aid is need-based: 83%

Part-time on campus (1996-97): 31%

Financial Aid

It is very important that you carefully consider the total financing of your education, from your first term at Berkeley to completing your degree objective. If financial help will be needed beyond funds that you or your family are able to provide, you should make the necessary applications for financial assistance well in advance of enrollment. You should pay particular attention to early deadlines for application for grants, scholarships, Federal Work-Study, Federal Perkins, and Federal Direct Stafford/Ford Loans. While the needs and resources of each student differ, the University can provide a general list of fees and expenses normally encountered. Note that fees are subject to change without notice.

Part of your fees may be refunded if you cancel your registration before the opening day of the semester or withdraw before the beginning of the sixth week of classes of any semester. (See Index, "Schedule of Refunds.") A circular on refunds, Student Fees and Deposits, is also available from the Office of Undergraduate Admission and Relations with Schools, 110 Sproul Hall.

Total Expenses. The cost of attending the University varies according to individual circumstances. The expenses listed below are approximate costs for the nine-month academic year and should be used only as a guideline.

Required Fees

The fees in this section are those in effect for the spring semester 1999. At press time, fees for future semesters had not been determined. Please call 643-7490 for current information, or see the Office of the Registrar’s Web site at http://registrar.berkeley.edu:4202.

University Registration Fee—$356.50 per semester. This fee is paid by all students and covers normal expected usage of facilities such as laboratories and gymnasiums (except for instructional programs associated with these facilities) and services such as counseling, placement, and health.

Educational Fee—This fee is paid by undergraduate California residents at $1,448 per semester, and by all other students at $1,543 per semester. A portion of this fee may be temporary. The educational fee is used to support a portion of the student services costs of the educational program, such as financial aid, social and cultural activities, Admissions and Registrar operations, counseling and career guidance, student affirmative action, and academic tutoring. In exceptional circumstances the educational fee may be reduced by one-half for part-time undergraduate students.

Approval of part-time undergraduate study is made only in exceptional cases and is based on considerations of occupation, family responsibility, and health. Applications must be approved by the appropriate dean before the start of each term. A fee reduction will be made only if you enroll in no more than two courses.

Berkeley Campus Fee—This fee is paid by all students in the amount of $78.75 per semester. It provides support for a wide range of activities sponsored by the ASUC, including work with academic and administrative units of the campus. It covers use of the Student Union, helps pay construction costs of the Union building, and assists with the provision of ethnic studies on the Berkeley campus.

University Health Insurance Fee—Undergraduates, $205 per semester; graduate students, $226 per semes-
The figures listed below were those in effect for the academic year 1998-99. Fees and estimates of expenses for subsequent years had not been determined when this catalog went to press; for current information, call 642-0645 or visit the Financial Aid Office's Web site at http://uga.berkeley.edu/foa.

### Undergraduate Residence Halls

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room and Board (includes food, housing, and utilities)</td>
<td>$7,788</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$822</td>
</tr>
<tr>
<td>Personal Expenses</td>
<td>$1,382</td>
</tr>
<tr>
<td>Transportation</td>
<td>$430</td>
</tr>
<tr>
<td><strong>Total Living Expenses</strong></td>
<td><strong>$10,422</strong></td>
</tr>
<tr>
<td>Fees (for two semesters)</td>
<td>$3,766</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>$410</td>
</tr>
<tr>
<td><strong>Total Budget (for California resident)</strong></td>
<td><strong>$14,598</strong></td>
</tr>
<tr>
<td>Nonresident Tuition</td>
<td>$9,384</td>
</tr>
<tr>
<td><strong>Total Nonresident Budget</strong></td>
<td><strong>$23,982</strong></td>
</tr>
</tbody>
</table>

### Undergraduate Off Campus

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room and Board (includes housing and utilities)</td>
<td>$4,612</td>
</tr>
<tr>
<td>Food</td>
<td>$2,290</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$822</td>
</tr>
<tr>
<td>Personal Expenses</td>
<td>$1,342</td>
</tr>
<tr>
<td>Transportation</td>
<td>$606</td>
</tr>
<tr>
<td><strong>Total Living Expenses</strong></td>
<td><strong>$9,672</strong></td>
</tr>
<tr>
<td>Fees (for two semesters)</td>
<td>$3,766</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>$410</td>
</tr>
<tr>
<td><strong>Total Budget (for California resident)</strong></td>
<td><strong>$13,848</strong></td>
</tr>
<tr>
<td>Nonresident Tuition</td>
<td>$9,384</td>
</tr>
<tr>
<td><strong>Total Nonresident Budget</strong></td>
<td><strong>$23,232</strong></td>
</tr>
</tbody>
</table>

### Undergraduate Commuter (lives with parents)

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>$1,236</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$822</td>
</tr>
<tr>
<td>Personal Expenses</td>
<td>$1,142</td>
</tr>
<tr>
<td>Transportation</td>
<td>$836</td>
</tr>
<tr>
<td><strong>Total Living Expenses</strong></td>
<td><strong>$4,036</strong></td>
</tr>
<tr>
<td>Fees (for two semesters)</td>
<td>$3,766</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>$410</td>
</tr>
<tr>
<td><strong>Total Budget (for California resident)</strong></td>
<td><strong>$9,346</strong></td>
</tr>
</tbody>
</table>

### Grad/Law/Optometry

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room and Board (includes food, housing, and utilities)</td>
<td>$6,282</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$822</td>
</tr>
<tr>
<td>Personal Expenses</td>
<td>$2,822</td>
</tr>
<tr>
<td>Transportation</td>
<td>$606</td>
</tr>
<tr>
<td><strong>Total Living Expenses</strong></td>
<td><strong>$12,022</strong></td>
</tr>
<tr>
<td>Fees (for two semesters)</td>
<td>$3,956</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>$438</td>
</tr>
<tr>
<td><strong>Total Budget (for California resident)</strong></td>
<td><strong>$16,384</strong></td>
</tr>
<tr>
<td>Nonresident Tuition</td>
<td>$9,384</td>
</tr>
<tr>
<td><strong>Total Nonresident Budget</strong></td>
<td><strong>$25,622</strong></td>
</tr>
</tbody>
</table>

- Students enrolled in the UC Berkeley Extension Fall Program for Freshmen are assessed fees through the Office of the Registrar. For information call 642-5990.
- M.B.A. students in the Haas School of Business are assessed an additional fee of $6,000; books and supplies are estimated to be $1,300. Fees and books for the evening program are $16,845.
- Students in the Boalt School of Law pay an additional $6,581 in fees and books; and JSP students, an additional $144.
- Graduate students in the School of Optometry are assessed an additional $3,000.

---

**CAL Quiz No. 16**

Who was the only person who inspired the name of two campus library facilities?

(Answer on page 457.)


**Fees and Financial Aid**

**Directory of Financial Aid Offices:**
- Undergraduate Financial Aid, 211 Sproul Hall 642-6442
- Graduate/Law/Optometry, 201 Sproul Hall 642-0485
- Special Financial Aid Services:
  - Director's Office, 225 Sproul Hall 642-0645
  - Emergency Loans, 220 Sproul Hall 642-0470
- Undergraduate Scholarships, Prizes and Honors, 210 Sproul Hall 642-6363
- Work-Study Program, 212 Sproul Hall 642-5625

**Undergraduates Fees per Semester**

<table>
<thead>
<tr>
<th></th>
<th>Residents</th>
<th>Nonresidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresident Tuition</td>
<td>$4,692</td>
<td>$6,896.25</td>
</tr>
<tr>
<td>Fees and Expenses</td>
<td>$2,088.25</td>
<td>6,875.25</td>
</tr>
</tbody>
</table>

**Graduate Students Fees per Semester**

<table>
<thead>
<tr>
<th></th>
<th>Residents</th>
<th>Nonresidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresident Tuition</td>
<td>$4,692</td>
<td>$6,896.25</td>
</tr>
<tr>
<td>Fees and Expenses</td>
<td>$2,204.25</td>
<td>8,696.25</td>
</tr>
</tbody>
</table>

**Collection Costs**—Additional costs may be assessed on any defaulted debts requiring remedial collection activity. These costs may include applicable attorney’s fees.

**Men's and Women's Athletic Events**—Student season tickets are available for purchase at the Athletic Ticket Office for football and men's basketball. Admission to other events is available in the form of a sports pass. For prices and additional information, call 642-3277.

**Fee Schedule**

At the time of registration, by mail or in person, students pay the following fees each semester:

<table>
<thead>
<tr>
<th></th>
<th>Residents</th>
<th>Nonresidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduates</td>
<td>$2,088.25</td>
<td>6,875.25</td>
</tr>
<tr>
<td>Graduate Students</td>
<td>$2,204.25</td>
<td>8,696.25</td>
</tr>
</tbody>
</table>

**Additional Fees and Expenses**

**Late Fee Payment**—Payments must be received, not postmarked, by the deadline indicated on the Campus Accounts Receivable System (CARS) statement. A $50 fee will be charged if registration fees are not paid by that date. All other delinquent accounts over $50 will be assessed penalties as follows:

- $20 on accounts one month past due;
- $25 on accounts two months past due and monthly thereafter until the account is brought current.

**Returned Check Charges**—A processing charge of $50 is assessed when the bank returns a check for payment of registration fees. A processing charge of $20 is assessed for all other returned checks.

**Late Enrollment**—$50. Continuing students who fail to call Tele-BEARS during Phase I or Phase II are liable for this fee.

**Reinstatement after having been dropped from University rolls**—$10.

**Tang Center**—The cost for the plan is billed with registration fees each semester. Payment for both the fall and spring semesters provides major medical coverage for the entire calendar year, including summer. You may waive out of the University’s plan and not pay the fee if you can show proof of coverage comparable to the University’s plan. For more information, contact the Student Health Insurance Office, University Health Services, Tang Center, 2222 Bancroft Way, or call 642-5700.

**Nonresident Tuition**—$4,692 per semester. At the time of registration, you are classified as a resident or nonresident for tuition purposes. Only U.S. citizens and holders of immigrant visas can become qualified for resident classification. Under California law you may be classified as a resident for tuition purposes if you have lived in California for more than one year immediately before the day instruction begins at the last of the campuses to open for a semester. Residence is the combination of physical presence within California, intent to live in California permanently, plus demonstrated financial independence for the two years immediately preceding the request for residence classification. Nonresidents must pay a nonresident tuition fee each semester. For detailed information regarding the establishment of California residence, see the Appendix or write to the Attorney in Residence Matters, 300 Lakeside Dr., Seventh Floor, Oakland, CA 94612-3565.

**Financial Aid**

The Financial Aid Office is located on the second floor of Sproul Hall. Please refer to the directory to the left for the addresses and telephone numbers of the various units. You may obtain detailed information about the various kinds of student aid available to Berkeley students from the Financial Aid Web page at http://uga.berkeley.edu/fao.

Students may apply for a variety of financial aid funds, including grants, scholarships, work-study, and loans. Financial aid applications and supporting information will be sent to entering undergraduate and graduate students. Renewal financial aid applications are sent to continuing students. Students also may visit the Financial Aid Office in January to pick up their forms. The deadline for filing is March 2.

All financial aid except fellowships, honorary scholarships, teaching and research appointments, and prizes is granted on the basis of financial need. Financial need is the difference between the cost of attendance for the academic year and the amount you and your family can contribute toward those costs. Prizes are
awarded on the basis of competition or outstanding ability in some area of creative or scholarly endeavor. Most scholarships are awarded on the basis of academic performance and financial need. For detailed information on scholarships and prizes, visit the Web site at http://www.berkeley.edu/scholarships.

Much of the funding for graduate students comes from sources other than the Financial Aid Office. Fellowships are awarded through the Graduate Division. Information and applications are available at the Graduate Division, 318 Sprout Hall. The deadline is January 5, but there are exceptions. Check with your department to confirm its filing dates.

Reserve Officers Training Corps

The University of California, as a land-grant institution established by the Morrill Act of 1862, offers courses and programs in military training. This training is voluntary and affords you the opportunity to qualify for a commission as an officer in the Army, Navy, Air Force, or Marine Corps while completing your college education. Reserve Officers Training Corps (ROTC) courses are offered by three departments: Aerospace Studies (Air Force), Military Science (Army), and Naval Science (Navy and Marine Corps). Scholarship programs are available; they carry a monthly stipend and pay for tuition, books, and most fees for qualified students. Individual programs are described under Military Officers Education Program in the courses section of this catalog.

Veterans' Educational Benefits

The Veterans Services Unit in the Office of the Registrar certifies eligible veterans, dependents, surviving spouses, and reservists for educational benefits. As the campus liaison to the Veterans Administration and the State Department of Veterans Affairs, Veterans Services can answer all questions regarding your eligibility for benefits and can assist you with counseling and referrals. A veterans' work-study program, a tutorial assistance program, and a fee waiver program are also available.

If you are a veteran newly admitted to Berkeley, please submit a certified copy of your Certification of Release or Discharge from Active Duty (form DD-214). You may also need to submit certified copies of your marriage certificate, dependent children’s birth certificates, and final divorce decree, if applicable.

If you are a veteran’s dependent, you must provide your spouse or parent’s VA claim number and social security number. The VA pamphlet, “A summary of Veterans Administration Benefits,” is available upon request.

If you have questions or need more information, you may write to the Veterans Services Unit, Office of the Registrar, 120 Sprout Hall, or call 642-1592.

CAL Quiz
No. 17
Was there really a Victorian glass conservatory/greenhouse on the main campus? Where, when, and why?
(Answer on page 457.)
Since I came to Berkeley, I’ve worked continuously on campus, both as a publications intern and as a work-study student. Work-study has expanded my marketable skills 100 percent.

4th-year student

Fellowships, Graduate Scholarships, and Academic Appointments for Graduate Students

Numerous programs—from fellowships, grants-in-aid, and loans to assistantships, subsidized housing, and child care programs—provide ways in which you can cut the cost of graduate school. Some of the programs are need-based and are administered through the Financial Aid Office. These programs are discussed in preceding paragraphs. Others are merit-based and are administered through the Graduate Division Fellowships and Appointments Office and the academic departments. For detailed information about all the sources available to you, consult the “Graduate Application for Admission and Fellowships,” available from the department to which you wish to apply. The following paragraphs discuss merit-based fellowships, graduate scholarships, and teaching and research appointments, the primary sources of non-loan financial aid for graduate students.

Fellowships and Graduate Scholarships

Applications for University fellowships and graduate scholarships are considered only once a year. Awards are made for the academic year beginning with the fall semester.

In assigning awards, the Committee on Fellowships and Graduate Scholarships and your department will consider the extent and quality of your previous academic work, evidence of your ability in research or other creative accomplishments, your intellectual capacity, and promise of productive scholarship.

In addition to departmental block grants and fellowships funded by the Graduate Division, which provide a stipend plus tuition and fees, the following fellowships are awarded in open competition:

The Berkeley Fellowships for Graduate Study. Fellowships are awarded to students of outstanding achievement and high promise who will begin graduate study toward the doctoral degree in any field. These are three-year awards, based on continued excellence in the fellow’s advanced degree program, with an annual stipend of $13,000, plus tuition and fees.

University Predoctoral Humanities Fellowships. Entering humanities students who enroll in Ph.D. programs and who plan to pursue a career in teaching and research are eligible for this fellowship, which provides $12,500, plus tuition and fees, for the first year of graduate study and for the dissertation year. For the second and third years, departments provide support in the form of teaching or research appointments.

The Chancellor’s Opportunity Predoctoral Fellowships. Fellowships are awarded to students who enroll in doctoral programs and contribute to the level of diversity within their disciplines or the graduate community at large. Recipients may have shown academic achievement in the face of economic, social, and/or educational disadvantages, and must be U.S. citizens or permanent residents. Fellowships provide fees plus an annual stipend of $12,000 for three years, plus non-resident tuition for the first year only. The fellowships are based on continued excellence in the fellow’s advanced degree program.

Foreign Language and Area Studies (FLAS) Fellowships. The U.S. Department of Education allocates fellowship funds to institutions of higher education that offer advanced training in modern foreign language and area studies. Area studies is defined as a program of comprehensive study of aspects of a society or societies including geography, history, culture, economy, politics, international relations, and languages. To be eligible, you must be a citizen or permanent resident of the U.S., show potential for high academic achievement, and plan to enroll in a course in the language of award.
Eugene Cota-Robles Fellowships. Fellowships are awarded to students who enroll in doctoral programs and contribute to the level of diversity within their disciplines or the graduate community at large. Recipients may have shown academic achievement in the face of economic, social, and/or educational disadvantages. The three-year awards carry an annual stipend of $12,500; fees for the first two years and a departmental teaching or research appointment for the third year; and nonresident tuition for the first year only. To be eligible, you must be a U.S. citizen or permanent resident and plan a career in teaching and research.

Graduate Opportunity Four-Year Fellowships. Fellowships are awarded to students who enroll in doctoral programs and contribute to the level of diversity within their disciplines or the graduate community at large. Recipients may have shown academic achievement in the face of economic, social, and/or educational disadvantages. To be eligible for this award, you must be a U.S. citizen or permanent resident. The four-year awards carry an annual stipend of $11,000; fees for the first two years and a departmental teaching or research appointment for the third and fourth years; and nonresident tuition for the first year only.

Regents Intern-Fellowships. Entering humanities or social science students who enroll in a Ph.D. program and who plan to pursue a career in teaching and research are eligible for this fellowship, which provides four years of support: two years of fellowship support ($11,000 stipend, plus tuition and fees the first year; $11,000 plus fees the second year) and two years of departmental teaching or research appointments. The fellowship covers fees for all four years.

Block Grant Fellowships. Awards are based on scholastic records, evidence of ability to do research or other creative work, and promise of productive scholarship. Awards are assigned by the student’s home department. Please see below and your department for information about the application process.

Fellowship Application Procedure. If you are applying for admission/fellowship, you must file the combined Graduate Application for Admission and Fellowships according to instructions included in the application. You are strongly advised to take the October Graduate Record Examination. If you are applying for admission for the spring semester, you should see your department for an award to begin the following fall semester.

If you are a continuing or returning graduate student at Berkeley, you may obtain the necessary fellowship application materials from your department or graduate group.

The fellowship application deadlines for new students range from December 15 to January 5, depending on the department; see the Application for Admission and Fellowships for deadlines. Continuing students should see their departments before January 5.

Announcement of Awards. Awards are announced by April 1 and must be accepted or declined, in writing, by April 15.

Fellowship Supplementation. Fellows receiving stipends of $6,500 or more may be employed no more than 25 percent time per semester as teaching or research assistants or in similar educationally relevant positions. Any exception to this policy must be approved by the dean of the Graduate Division upon recommendation of the graduate adviser.

Graduate Opportunity Program (GOP) The University maintains its commitment to diversity and excellence. The Graduate Opportunity Program is part of that commitment. The purpose of the Graduate Opportunity Program is to assist in increasing the number of underrepresented students entering and completing higher degrees at the University. To that end, GOP oversees an ongoing program of outreach activities and services for African Americans, Mexican Americans (Chicanos), Native Americans/American Indians, Pacific Islanders, Puerto Ricans, and Filipino Americans who are U.S. citizens or permanent residents and are targeted groups because of their historical underrepresentation in graduate education. Asian Americans, Latinos, and nonminority women are targeted in disciplines in which they are underrepresented among University of California students.

The Graduate Opportunity Program Awards are made to students who exhibit financial need and contribute to the level of diversity within their disciplines or the graduate community at large. These awards provide doctoral students a stipend up to $10,500 per year for two years, plus tuition and fees. For master’s students, the award provides a stipend up to $7,000 for one year, plus tuition and fees. If master’s students are later admitted to a doctoral program, they will be eligible for a second year of GOP support.
Prospective students who wish to be considered for a GOP Award should complete Form E of the Graduate Application for Admission and Fellowships. Applicants are also required to complete the Free Application for Federal Student Aid (FAFSA) for determination of financial need.

Application fee waivers are also available for economically disadvantaged students. The request forms are available at the Graduate Admissions Office and the Graduate Opportunity Program Office.

For further information, contact the Graduate Opportunity Program, Graduate Division, University of California, Berkeley: Berkeley, CA 94720-5900, 643-6010.
E-mail: gop@uclink4.berkeley.edu.

Teaching and Research Positions

Teaching Appointments. Many departments make graduate student instructorships available to qualified graduate students, providing them with stipends of $1,333 to $1,586 per month for half-time appointments (1998-99 rate). Appointments are half time or less. Graduate student instructors must be registered full-time students. Chosen for scholarly achievement and promise as a teacher, appointees serve the apprenticeship under active supervision of the regular faculty. Advancement to candidacy, teaching experience, and continuous and satisfactory progress toward the degree are rewarded with appointment to the higher steps of graduate student instructor. In some departments, students working for a Ph.D. are required to complete a specified minimum period of teaching as part of their degree program. If interested, you should apply directly to the chair of the department in which you wish to teach.

Beginning in fall 2000, all non-native speakers of English wishing to apply for a GSI appointment are required to comply with protocols available on the Graduate Division Web site at http://www.grad.berkeley.edu/grad/. Applicants are strongly encouraged to take the Test of Spoken English (TSE) in their home countries. Enrolled students should contact their major departments for details. For information on registering to take the TSE, contact the TOEFL agent in your home country or at the address given on page 52.

Note: The TOEFL is not a test of oral English proficiency, and it may not be substituted for the TSE.

International students who have not taken the TSE before their arrival at Berkeley must take and pass the Speaking Proficiency English Assessment Kit (SPEAK) before receiving a teaching appointment. For information on SPEAK testing and English language proficiency courses, contact the Graduate Student Instructor Teaching and Resource Center, 301 Sproul Hall, 642-4456.

Research Appointments. If you are a qualified registered full-time graduate student, you may seek a research appointment in the departments, centers, and institutes of the University. The stipend ranges from $1,149 to $1,666 per month for a half-time appointment (1998-99 rate). The duration and extent of such an appointment may vary. If interested, you should apply directly to the department, center, or institute in which you wish to work.

Stipends and Fee Remissions. Stipend figures for all positions mentioned above are subject to United States income tax deductions. Figures given are gross, not net, and do not reflect deductions. If you are offered an appointment, you should obtain information about payment schedules, since payment for work performed is later than the deadline for payment of registration fees. For teaching appointments, payment is in 10 equal installments (five installments per semester).

In order to ensure proper academic progress, candidates for higher degrees may not be appointed by the University in any capacity at more than half time during the academic year without the express consent of the dean of the Graduate Division. Summer appointments may be full time. Graduate students appointed by the University to most academic titles must be registered for at least 8 units per semester in 100-200 series courses. Units in the 600 series may be substituted for 200-level units when appropriate. Lower division units taken to prepare for departmental requirements (languages, mathematics, statistics) may be substituted for 100-level units.

Graduate student instructor and graduate student researcher appointments may include coverage of the premium for the Student Health Insurance Plan (SHIP) and a partial remission of registration fees. Doctoral students with graduate student researcher appointments at 45 percent time for the entire semester may be eligible for remission of nonresident tuition if they meet certain other criteria. See your department to determine eligibility.
The large lower division lecture class, often maligned but also stalwartly defended, has been a feature of Berkeley education for decades. This class was held around 1950.
### The Semester System

Under the semester system on the Berkeley campus, the academic year is divided into two semesters and one summer session. Quarter units, either earned previously at Berkeley or at another institution, are converted to semester units by multiplying by two-thirds; for example, 180 quarter units equal 120 semester units.

### Courses and Units

Most University courses are assigned a unit value. One unit represents three hours of work per week by the student, including both class attendance and preparation. Laboratory, discussion, quiz, or review sessions may or may not be given unit value.

### Grades

The work of all students on the Berkeley campus is reported in terms of the following grades: A (excellent), B (good), C (fair), D (barely passing), F (failure), P (passed at a minimum level of C-), NP (not passed), S (satisfactory, passed at a minimum level of B-), U (unsatisfactory), I (work incomplete due to circumstances beyond the student’s control, but of passing quality), IP (work in progress; final grade to be assigned upon completion of entire course sequence). The grades A, B, C, and D may be modified by plus (+) or minus (-) suffixes.

A course in which the grades A, B, C, D, or P (undergraduate students only) is received is counted toward degree requirements. A course receiving the grade S (graduate students only) is similarly counted unless otherwise specified in the course description. A course in which the grade F, NP, or U is received is not counted toward degree requirements. A course in which the grade of I or IP is received is not counted toward degree requirements until the I or IP is replaced by grade A, B, C, D, P, or S.

#### Grade Points

Grade points per unit are assigned as follows: A=4, B=3, C=2, D=1, and F=none. When attached to the grades A, B, C, or D, plus (+) grades carry three-tenths of a grade point more per unit, and minus (-) grades three-tenths of a grade point less per unit than unsuffixed grades, except for A+, which carries 4.0 grade points per unit as does the A.

#### Grade-Point Average

Your grade-point average is computed on courses undertaken in the University of California, with the exception of courses undertaken in University Extension. Grades A, B, C, D, and F are used in determining your grade-point average; grades IP, P, S, NP, and U carry no grade points and are excluded from all grade-point computations. Grade I, if assigned before fall 1973, is included and is computed as an F; an I grade assigned fall 1973 and later is excluded from computations. For additional information, see “Repetition of Courses” below.

#### Computation of Grade-Point Averages

<table>
<thead>
<tr>
<th>Grade</th>
<th>Units</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>B+</td>
<td>3</td>
<td>9.9</td>
</tr>
<tr>
<td>C-</td>
<td>3</td>
<td>5.1</td>
</tr>
<tr>
<td>P</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>9</td>
<td>27</td>
</tr>
</tbody>
</table>

Average 3.000

#### Special Provisions—Graduate Students

Only courses graded A, B, C (with or without plus or minus signs), or S are accepted in satisfaction of degree requirements. Courses graded below C- do not yield unit credit toward a higher degree, regardless of your overall grade-point average. Graduate students must maintain a minimum grade-point average of 3.0 in all upper division and graduate course work undertaken in graduate standing in the University of California or its exchange programs. Please note that departments, schools, and groups may have a higher performance standard than the minimum B average required by the Graduate Division. You must also work full time at your academic or professional program unless a program with fewer units is approved by your
graduate adviser. In addition, you must successfully complete all course work required by your department, school, or group program, be advanced to candidacy, pass the required examinations, and fulfill other requirements specified for the program.

For a course extending over more than one semester in which evaluation of your performance is deferred until the end of the final semester, provisional grades of in progress (IP) may be assigned in the intervening semesters. The provisional grades are replaced by the final grade if you complete the full sequence. If you do not complete the full sequence, the Berkeley Division of the Academic Senate is authorized to regulate the award of credit.

With the consent of the department involved, graduate students may enroll in courses in the 600-series. These courses are evaluated by means of the grades satisfactory and unsatisfactory (S and U). They prepare you for appropriate master’s or doctoral examinations and do not count toward academic residence or the unit requirements for a higher degree. You may earn 1-8 units of 601 or 602 per semester or 1-4 units per summer session and accumulate a maximum of 16 units in 601 and 602, respectively, toward examination preparation. No credit is allowed for work graded unsatisfactory.

Passed/Not Passed and Satisfactory/Unsatisfactory Grades

If you are an undergraduate in good academic standing (2.0 grade-point average or better, or in good academic standing under the academic probation regulations of your college or school), you may elect to take letter-graded courses on a passed/not passed basis, and if you are a graduate student in good academic standing, you may elect to take letter-graded courses on a satisfactory/unsatisfactory basis with the consent of your department, school, or group. Credit for courses taken on these bases is limited to one-third of the total units that you have taken and passed on the Berkeley campus at the time your degree is awarded. Included in this one-third are any units completed in an Education Abroad program, or on another University of California campus in an intercampus exchange program, or in a joint doctoral program. For graduate degree programs, grades of Satisfactory assigned in courses numbered 299 and in courses of the 300, 400, or 600 series are excluded from this computation. If you enroll in a course offered only on a passed/not passed or satisfactory/unsatisfactory basis, you will be graded P/NP if an undergraduate and S/U if a graduate. A course that is required in or prerequisite to your major may be taken on a P/NP or S/U basis only upon approval of the faculty of your school or college.

If you are a special or limited-status student, you may take courses on a P/NP basis at the discretion of the dean of your college or school. You may not repeat on a P/NP basis a course that you have previously taken on a letter-graded basis.

The option of being graded P/NP or S/U in a course may be cancelled if you are found to be ineligible for the option. If the course is offered on a P/NP or S/U basis only, it may be deleted from your study list at the option of your dean.

If you want honors at graduation, you should consult your college, school, or division for additional restrictions.

Your level of performance must correspond to a minimum letter grade of C- if you are to receive a passed grade, and to a B- if you are to receive a satisfactory grade.

These rules may be further limited by the faculties of the various schools and colleges and by the Graduate Council.

Grade I (Incomplete)

The grade I may be assigned if your work in a course has been of passing quality but is incomplete for reasons beyond your control. Prior arrangements must be made with the instructor, because in assigning the I grade the instructor is required to specify the reasons to the department chair.

For graduate students, the I grade will remain on the record until the required work is completed. Graduate students must finish the course requirements as soon as possible. To remove an I grade from your record, you must file the appropriate petition and fees with the Office of the Registrar, 120 Sprout Hall.

Although I grades are not counted in computing the grade-point average, it is important to remove them quickly. In order to hold an academic appointment, graduate students may have no more than two I grades on their academic records. You should seek the advice of the Graduate Division if you have further questions concerning I grades.

The option of being graded P/NP or S/U in a course may be cancelled if you are found to be ineligible for the option. If the course is offered on a P/NP or S/U basis only, it may be deleted from your study list at the option of your dean.

If you want honors at graduation, you should consult your college, school, or division for additional restrictions.

Your level of performance must correspond to a minimum letter grade of C- if you are to receive a passed grade, and to a B- if you are to receive a satisfactory grade.

These rules may be further limited by the faculties of the various schools and colleges and by the Graduate Council.

Grade I (Incomplete)

The grade I may be assigned if your work in a course has been of passing quality but is incomplete for reasons beyond your control. Prior arrangements must be made with the instructor, because in assigning the I grade the instructor is required to specify the reasons to the department chair.

For graduate students, the I grade will remain on the record until the required work is completed. Graduate students must finish the course requirements as soon as possible. To remove an I grade from your record, you must file the appropriate petition and fees with the Office of the Registrar, 120 Sprout Hall.

Although I grades are not counted in computing the grade-point average, it is important to remove them quickly. In order to hold an academic appointment, graduate students may have no more than two I grades on their academic records. You should seek the advice of the Graduate Division if you have further questions concerning I grades.
For undergraduate students, an I grade received in the fall semester must be replaced by the first day of instruction in the following fall semester.

An I grade received in the spring semester or Summer Session must be replaced by the first day of instruction in the following spring semester.

When you complete the required work or deferred examination, grade points will be assigned if you receive a grade of A, B, C, or D. If you repeat the course, grade points will then be assigned to the earned grade if the dean has given prior written approval to repeat it. If you repeat the course without the approval of the dean, the I grade will be converted to an F and the repeated course will be treated the same as any other course in which you receive an F. The dean of your college or school may extend the deadline for undergraduate completion of an I grade. For undergraduates, except as noted below, any I grade which has not been replaced within the above deadlines will, at the end of that time, be converted to grade F (or NP if taken passed/not passed). After that time, but not retroactively, the grade is counted in computing your grade-point average.

Exceptions: Within the above deadlines for completing an I grade, undergraduate students may notify the dean that they have not attempted completion and will not complete the work required for removal of the I grade, and may request that the grade not be replaced by an F (or NP). This procedure is limited to a maximum of two courses. Once the decision has been made, it is irrevocable; the course cannot afterward be completed by any means, including repetition of that course or any equivalent course.

If a degree is conferred before the end of the above deadlines following the assignment of an I grade, the grade will not be converted to an F (or NP). However, you still have the option of removing the I grade within the above deadlines.

If you are an undergraduate student with 12 or more units of I on your record, you may not register without the permission of the dean.

All students who receive an I grade must file a Petition for Grade and Grade Points in an Incomplete Course, available at department offices and at the Office of the Registrar, 120 Sproul Hall. You should file the petition with the department in which you received the I grade as soon as you and the instructor have established the date you completed the course. The filing fee is $5, payable at the Registrar’s Office. You must make arrangements to complete the course at least 30 days before the deadline. The final grade cannot be recorded until you have filed the petition with the department and paid the fee.

Note: The I grade is not physically replaced or removed from the academic record. Completion of the work is reflected as a subsequent line entry on the record, and the units and grade points thus earned will be included in the grade-point computations at the close of the next session.

Grade IP (In Progress)

If you take a course extending over more than one term and evaluation of your performance is deferred until the end of the final term, provisional grades of IP (In Progress) are assigned in the intervening term(s). The provisional grades are replaced by one final grade if you
complete the full sequence. The grade IP is not included in the grade-point average. Effective with an IP assigned fall 1973 or later, if the full sequence is not completed as scheduled, the IP will be replaced by a grade of Incomplete. Further changes in your record will be subject to the rules pertaining to I grades (see above).

Changes of Grade
All grades except I and IP (see above) are considered final when assigned by an instructor at the end of a term. An instructor may request a change of grade when a computational or procedural error occurred in the original assignment of a grade, but a grade may not be changed as a result of re-evaluation of your work. No final grade may be revised as a result of re-examination or the submission of additional work after the close of the term.

Appeal Process
If you have a grievance about grades, you may appeal. You have grounds for appeal if you feel that considerations of race, politics, religion, sex, or sexual harassment affected your grades, or that your work was evaluated by other criteria that do not directly reflect your performance of the course requirements. The following formal procedure may not be activated unless you, the instructor in charge, an ombudsman (or any mutually accepted third party), and the department chair have failed to resolve the dispute informally. The procedure, once initiated, is to be completed at the unit level within 20 days and at the Senate level within 40 days if both parties are in residence and the University is in regular session. The formal process must be initiated within two semesters of the alleged offense.

Appeal of Grades in Courses and Examinations
Each department or other instructional unit, or group of units teaching similar disciplines, must establish a standing Grievance Committee chair. For each case this chair will appoint an ad hoc Grievance Committee composed of three faculty members, only two of whom may be from the same unit, and two students in good standing appointed by the student association(s) of the unit(s). If no student association exists, the students are to be appointed by the ASUC or the Graduate Assembly. (The student members must have passed courses or an examination in the unit(s) at least at the level of the disputed course or examination and have been in residence for at least one year.) If you are dissatisfied with the outcome of the informal discussion, you may submit the case in writing to the Grievance Committee, which will obtain a written response from the instructor and will provide all parties the opportunity to present additional information orally or in writing. The Grievance Committee’s recommendation to the Committee on Courses, including minority view, if any, must be given in writing.

If the Committee on Courses finds in your favor, it may change a failing grade to a P or S, drop a course retroactively, retain the course but eliminate the grade from the GPA, or adopt the letter grade, if any, that was recommended by four of the five members of the Grievance Committee of the unit(s).

Repetition of Courses
You may repeat only courses in which you received a grade of D+, D, D-, F, NP, or U. You may repeat an I grade subject to limitations listed below (see Grade I). Courses in which you received a grade of D+, D, D-, or F and courses that you undertook for a letter grade but for which you received a grade of I may not be repeated on a passed/not passed basis. Repetition of a course more than once requires approval by the dean of the college, school, or division in which you are enrolled at the time you repeat the course. Without this approval, a course repeated more than once will not be included in the grade-point average, but a passing grade in the repeated course will be accepted in satisfaction of unit requirements for the degree. Degree credit for a repeated course will be given only once, but the grade assigned at each enrollment is permanently recorded. If you repeat courses in which you received a grade of D+, D, D-, or F, the units are counted only once and only the most recently earned grades and grade points are used for the first 12 units repeated. In case of further repetitions, the grade-point average is based on all grades assigned and total units attempted. If, however, you receive a grade of I upon repetition of a course, the grade of D+, D, D-, or F will continue to be computed in the grade-point average until the I grade is replaced. If you repeat an I in a letter-grade course, the I will lapse to an F unless you have permission of the dean of your college or school to retain the I grade for a longer period.

Credit by Examination
Undergraduate Students
You may earn credit by examination in two ways:
1. If you are a new or re-entering undergraduate student, on the recommendation of the Board of Admissions you may be allowed credit by examination for knowledge that you acquired since graduation from high school, either by independent study or at another institution, and for which you have not been allowed advanced standing credit. You should apply to the Office of the Registrar for credit.
2. If you are a student in good standing and currently registered in a regular session, you may qualify for course credit by examination. You may apply for credit to the dean of your college or school on the Petition for Credit by Examination, obtainable from the Office of the Registrar. You may apply for credit by examination in any course listed in the current General Catalog that pertains to the regular sessions at Berkeley. However, the subject in which you want to be exam-
in which, in the opinion of the instructor in charge or the department, knowledge can be tested by examination. You must file a separate petition for each course for a fee of $5 per course. In certain laboratory, field, or practice courses, neither a written nor an oral examination may be a satisfactory test. You may not receive credit by examination (1) if the credit would duplicate credit that you presented for admission to the University or (2) in elementary courses in your native language if it is not English. The examination must cover the entire course and be administered at one sitting of no longer than three hours. It may be the regularly scheduled final examination for the class, provided that the examination meets the foregoing criteria. The result of the examination may be reported to the Office of the Registrar only as Passed or Satisfactory, according to the regulations governing the assignment of these grades.

Further information concerning credit by examination may be obtained from the Office of the Registrar.

Graduate Students
If you are a graduate student in residence, you may petition to receive a limited amount of course credit toward your degree by passing examinations on material covered in certain courses in lieu of taking those courses. Laboratory courses or graduate seminar or research courses are excluded. You must be registered for at least 4 units of upper division and/or graduate course work at the time you take the examination and you must be in good academic standing (3.0 grade-point average or better). The final result of the examination will only be reported as satisfactory or unsatisfactory. You may obtain the petition from the Office of the Registrar. Approval to take these examinations must be given by the dean of the Graduate Division and by the course instructor, or, if no instructor is designated, by the department chair.

Midterm and Final Examinations
The number of midterm examinations varies at the discretion of the instructor. Notices will be sent to undergraduate students whose work at midterm is of D, F, or NP quality. Final examinations are required in all undergraduate nonlaboratory courses, with the exception of courses that the Schedule of Classes indicates do not require a final examination. This requirement allows you to demonstrate mastery of course material while providing the instructor with written evidence for evaluation. You may be re-examined only to complete an incomplete grade, not to raise any other grades. The examination may last no longer than three hours and must be administered at the time announced in the Schedule of Classes. Any deviation from this announced time, including take-home examinations, requires approval from the Committee on Courses. This requirement guarantees you ample prior notice of the examination time and eliminates conflict with other examinations.

Instructors or departments must return your final examinations or copies of them, or retain them for 13 months after the date of the examination. They must give you access to retained examinations under the supervision of the instructor or a designee. You have a right to pay for and keep photocopies of your retained examinations. The department is responsible for ensuring compliance with this regulation for all faculty, including visiting faculty and faculty on leave.

Other Academic Policies

Grade Reports and Transcripts
After grades are recorded for a semester, they are available from Info-BEARS at 642-9400. Official copies of student transcripts also are available from the Office of the Registrar, 120 Sproul Hall. Transcripts for registered students with their grades are available approximately 30 days after the last date for final exams. At times other than the end of the semester, the normal period required for processing and issuing transcripts for both registered and former students is 7 to 10 working days after receipt of your request. The charge for each transcript of every undergraduate, graduate, or separate Summer Sessions record is $5 per copy. The total amount due must accompany the application. If you urgently need a transcript that would normally take 7 to 10 days to issue, it can be made in 24 hours at a special charge of $12 for each copy. Rush transcripts also can be ordered by mail or by telephone at 643-7490, using your Visa, Mastercard, or Discover Card.
Cal Photo ID Cards

Your Cal photo ID card is your official identification as a student at Berkeley. If you have not already had your photograph taken for the card, you should do so as soon as possible. If you are a newly admitted student, you can have your photograph taken as soon as possible. If you are a newly admitted summer student, the first card is free; replacement cards are $10 (nonrefundable). For more information, go to the Cal Photo ID Office, Unit 2 Residence Halls East Dining Center, 2650 Haste Street, or call 643-6839.

Change of Name or Address

Changes to your local or permanent address or telephone number can be entered directly on the Bear Facts system (see page 38). You can also change your address at your department or college/school dean’s office or at the Office of the Registrar. If you have changed your name, go to the Office of the Registrar, 120 Sproul Hall, and complete a Change of Name form.

Probation and Dismissal—Graduate Students

Graduate students are subject to probation and dismissal for academic deficiencies at the discretion of the dean of the Graduate Division under the policies established by the Graduate Council of the Academic Senate. Probation may be initiated by the dean of the Graduate Division or by recommendation of the chair of graduate advisers in your major department, school, college, or graduate group. The most common reasons for probation are a low GPA, written work of substandard quality in courses central to your program of study, or failure to make adequate progress toward the degree. Dismissal for academic deficiencies is normally carried out by the dean on the recommendation of the chair of the graduate advisers, but the dean may also initiate dismissal after reviewing your record. You may appeal dismissal from graduate standing. To obtain a copy of the graduate appeals procedures, contact the Graduate Division, 302 Sproul Hall, 642-7330.

Access to Records

You are entitled by law and University policy to examine and challenge most of the records that the University maintains on you. These records are confidential and in most circumstances may be released to third parties only with your prior consent. Such matters are detailed in the Berkeley Campus Policy Governing Disclosure of Information from Student Records, available in the Office of the Registrar, 120 Sproul Hall.

Classroom Note-Taking and Recording Policy

As part of the education and learning experience, enrolled students routinely take course lecture notes. With the permission of the instructor, students may record lectures as well. Lecture notes and recordings involve issues related to the intellectual property rights of instructors and the University’s regulation of commercial activity on campus. To protect these rights, the University has adopted policies governing note-taking in classrooms:
- Unless approved by the chancellor, commercial activity at Berkeley is prohibited.
- Note-taking services for Berkeley courses are provided exclusively by the campus’s Black Lightning Lecture Notes (BLLN). No outside entity is authorized to perform this service for UC Berkeley courses.
- Course notes may not be sold or distributed without the express written approval of the instructor.
- The instructor retains the right to approve the designated note taker in advance. The note taker must be a student enrolled in the class, unless otherwise authorized by the instructor.
- The instructor has the right to review and approve course notes in a timely manner before their distribution.
- The instructor has the right to negotiate the terms and conditions with BLLN, including, but not limited to, royalties.

Students violating these policies can be charged under Section III. B. 7 of the Code of Student Conduct.

The full text of this policy is available in the Appendix.

Leaving Berkeley

Cancellation or Withdrawal of Registration

If you do not wish to attend the University for a semester and instruction has not yet begun, you must formally request a cancellation of your registration from the University. If instruction has already begun and you find it necessary to stop attending classes, you must formally request a withdrawal from the University. Whether you cancel or withdraw, any classes in which you are enrolled will be dropped from your schedule, and you will no longer be eligible to attend for that semester or any future semester until you are readmitted.

CAL Quiz

No. 23

What Berkeley professor traced and described the San Andreas Fault, conducted the research that proved the Golden Gate Bridge could be built, and has a campus tunnel named for him?

(Answer on page 457.)
Cancellation
You can cancel your registration via Tele-BEARS or by notifying the Office of the Registrar in writing before the first day of instruction for the semester. To have your cancellation processed electronically, you can also go to your college or school dean’s office (for undergraduates); the Graduate Division, 302 Sproul Hall (for graduate students); or the Office of the Registrar, 120 Sproul Hall.

Withdrawal
You must have your withdrawal approved by an adviser at your college or school dean’s office (for undergraduates) or the Graduate Division, 302 Sproul Hall (for graduate students). Your adviser will process your withdrawal electronically; you do not need to go to the Office of the Registrar to file a petition. If you are withdrawing for medical reasons, you should also contact University Health Services at the Tang Center, 2222 Bancroft Way. If you are an international student (on an F-1 or J-1 visa), you should also see an adviser at the International House, 2299 Piedmont Avenue. If you have a student loan, you are required to go to the Loans and Receivables Office, 192 University Hall, for an exit interview.

Refunds
Refund amounts are determined by the date on which your cancellation or withdrawal was processed. If you qualify for a refund, it will be mailed to your permanent address. Please ensure that the permanent address in your official University record is correct at the time you cancel or withdraw.

Note: All refunds are applied to students’ CARS accounts and may be applied to any outstanding debts. Late fees are not refundable. The amount of refund is based on total fees assessed (not just the amount paid) at the time the cancellation or withdrawal is processed; students who withdraw while participating in the Deferred Payment Plan are likely to have a remaining financial obligation to the University.

If you are receiving financial aid, any refund processed will be first applied to your financial aid accounts, regardless of whether you or the Office of Financial Aid paid your fees. If any portion of your registration, tuition (if applicable), or housing fees has been paid by the University or any outside sources, the refund will be applied directly to the source of those funds. Any remaining balance will be credited to your CARS account and returned to you if you have no other outstanding charges.

If you have student loans, the University will notify your lenders of your cancellation or withdrawal status. Further, federal regulations require the University to apply refunds first to any federal student loans you have for the current semester. This may result in your student loan becoming fully due and payable upon your cancellation or withdrawal, depending on when you cancel or withdraw.

For further information on this policy, contact the Office of Financial Aid, second floor Sproul Hall, 642-6442 (for undergraduates) or 642-0485 (for graduate, law, and optometry students).

Schedule of Refunds for New Students Who Have Had Federal Financial Aid Applied to Their CARS Accounts and Withdraw During Their First Academic Term

<table>
<thead>
<tr>
<th>Days</th>
<th>Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>100%</td>
</tr>
<tr>
<td>8-14</td>
<td>90%</td>
</tr>
<tr>
<td>15-28</td>
<td>80%</td>
</tr>
<tr>
<td>29-35</td>
<td>70%</td>
</tr>
<tr>
<td>36-49</td>
<td>60%</td>
</tr>
<tr>
<td>50-56</td>
<td>50%</td>
</tr>
<tr>
<td>57-63</td>
<td>40%</td>
</tr>
<tr>
<td>64 or more</td>
<td>0%</td>
</tr>
</tbody>
</table>

Schedule of Refunds for All Continuing and Readmitted Students and New Students Who Have NOT Had Federal Financial Aid Applied to Their CARS Accounts

Nonresident Tuition, Educational Fee, University Registration Fee, and Other Student Fees and Charges

<table>
<thead>
<tr>
<th>Days</th>
<th>Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>100%</td>
</tr>
<tr>
<td>2-11</td>
<td>90%</td>
</tr>
<tr>
<td>12-27</td>
<td>50%</td>
</tr>
<tr>
<td>28-53</td>
<td>25%</td>
</tr>
<tr>
<td>54 or more</td>
<td>0%</td>
</tr>
</tbody>
</table>

Returning to Berkeley

Attending Berkeley After Cancellation

New Students: If you cancelled your registration and wish to attend Berkeley in a future semester, you must submit a new application for admission. Your previous admission status will have no bearing on the decision for admission in the future.
**Continuing Students:** If you cancelled your registration and wish to attend Berkeley in a future semester, you must submit an Application for Readmission (see "Attending Berkeley After Withdrawal," below).

**Attending Berkeley After Withdrawal**

If you withdrew from the University and wish to return in a future semester, you must submit an Application for Readmission, available at the Office of Undergraduate Admission and Relations with Schools, 110 Sproul Hall (for undergraduates) and at Graduate Degrees, 302 Sproul Hall (for graduate students). The filing dates are April 15 for the fall semester and August 15 for the spring semester. For more information, see page 36 (undergraduates) or page 52 (graduate students).

**Note:** If you are an undergraduate in the Colleges of Engineering, Environmental Design, or Letters and Science, you may be subject to a "semester out" rule: consult your college dean's office for more information.

---

**Graduation from Berkeley**

**Undergraduate Students**

**Declaration of Candidacy.** If you expect to complete work for your degree by the end of a semester, you must declare your candidacy by entering the appropriate code during the first call to the Tele-BEARS registration system. As an alternative, you may declare your candidacy at the beginning of the semester by completing the appropriate petition in the Office of the Registrar, 120 Sproul Hall, or call 643-6173. You have until the end of the fifth week of classes in which to declare.

**Nonregistered students.** If you are not registered at the time you want to declare candidacy, you may come in person to 120 Sproul Hall to fill out the form "Candidate for Bachelor's Degree" or call 643-6173 by the end of the fifth week of classes.

**Degree check.** The Office of the Registrar will check your records to ensure that you have completed the University requirements (American History and Institutions and Subject A, 120 units, and are in good academic standing) and the Berkeley campus American cultures requirement. Your college or school will check for the fulfillment of major, department, and college or school requirements.

**Confirmation of Candidacy.** Your Confirmed Class Schedule will indicate whether or not you have been advanced to candidacy. If you think there has been an error, go to 120 Sproul Hall.

**Certificate of Completion.** A Certificate of Completion is official proof that you have been granted the degree for which you were working. Undergraduates may request a certificate from 120 Sproul Hall, and it will be mailed from four to six weeks after the end of the semester.

**Graduate Students**

Before a graduate degree can be conferred, candidates must have been advanced to candidacy and complete the master's thesis or doctoral dissertation and any required comprehensive or oral examinations. For detailed procedures and requirements, see the section "Graduate Education," beginning on page 49.

**Commencement**

Commencement exercises to honor students who have earned baccalaureate and graduate degrees and to give recognition and awards to students who are graduating with distinction are held each year in May. Students who have earned their degrees in the previous fall semester or in Summer Sessions are welcome to participate. The ceremonies are held by individual schools or colleges or, in the College of Letters and Science, by individual department. There are about 60 ceremonies each year. The ceremonies consist of speakers and the presentation of degrees and awards and are followed by a reception, sometimes a dance, and for at least one department a picnic and volleyball game.

Students may rent caps and gowns through the ASUC and may make arrangements for photographs to be taken or videotapes made. See your department office for additional information.

**Diplomas**

Diplomas are not given out at Commencement but are available approximately four months afterward. You may pick up your diploma at 120 Sproul Hall or request that it be sent to you for a mailing fee of $8 domestic and $14 international. The Office of the Registrar will retain diplomas for five years only.


**Student Conduct and Appeals**

**Student Conduct**

When you enroll in the University, you assume an obligation to conduct yourself in a manner compatible with the University’s function as an educational institution. Rules concerning student conduct, student organizations, use of University facilities, and related matters are set forth in both University policies and campus regulations, copies of which are available upon request at the Office of Student Activities and Services, 102 Sproul Hall. You should pay particular attention to the booklet Berkeley Campus Regulations Implementing University Policies.

**Cheating or Plagiarism**

Achievement and proficiency in subject matter include your realization that *neither is to be achieved by cheating.* An instructor has the right to give you an F on a single assignment produced by cheating without determining whether you have a passing knowledge of the relevant factual material. That is an appropriate academic evaluation for a failure to understand or abide by the basic rules of academic study and inquiry. An instructor has the right to assign a final grade of F for the course if you plagiarized a paper for a portion of the course, even if you have successfully and, presumably, honestly passed the remaining portion of the course. It must be understood that any student who knowingly aids in plagiarizing or other cheating, e.g., allowing another student to copy a paper or examination question, is as guilty as the cheating student.

**Sexual Harassment Policy**

The Berkeley campus actively supports the official policy of the University of California on sexual harassment, which states: “The University of California is committed to creating and maintaining a community in which students, faculty, and administrative and academic staff can work together in an atmosphere free of all forms of harassment, exploitation, or intimidation, including sexual. Specifically, every member of the University community should be aware that the University is strongly opposed to sexual harassment and that such behavior is prohibited both by law and by University policy. It is the intention of the University to take whatever action may be needed to prevent, correct, and, if necessary, discipline behavior which violates this policy.”

The campus has a special complaint procedure designed to facilitate prompt and confidential resolution of sexual harassment complaints. If you believe that you have been a victim of sexual harassment, have questions about the definition of sexual harassment or about the special complaint procedure, or have questions about the interrelationship between the special complaint procedure and other campus procedures, you may address your inquiries to the Title IX Compliance Officer, 643-7985. Copies of the procedure are available in 200 California Hall.

**Sexual Harassment/Assault Advocacy and Education Program**

The Sexual Harassment/Assault Advocacy and Education Program, coordinated by the campus Women’s Resource Center, provides educational workshops for student groups and confidential advocacy and support for individuals who may have experienced harassment or an assault. Short-term crisis intervention counseling is also available. For further information, call 642-4786. University Health Services also offers sexual assault prevention workshops (642-7202), immediate response to sexual assault (642-6074), and services for recent survivors and those working to recover from a past assault.

**Student Grievance Procedure**

The Berkeley campus Student Grievance Procedure (Appendix II to the Berkeley Campus Regulations Implementing University Policies) gives you an opportunity to resolve complaints alleging discrimination based on race, color, national origin, sex, handicap, age, and sexual orientation. You may also use the procedure to resolve any complaints you may have alleging that any other rules or policies of the Berkeley campus were inappropriately applied and resulted in injury to you. The procedure is not applicable to certain kinds of complaints for which other appropriate appeals procedures exist, such as a grade appeal based on the application of nonacademic criteria. (See "Appeal of Grades in Courses and Examinations" on page 81 for a description of the grade appeal process.) The procedure contains important time limitations and provisions about the interrelationship between this procedure and other campus complaint procedures. Inquiries about this procedure or its interrelationship with other campus complaint procedures may be directed to the Assistant Vice Chancellor of Student Life, 643-9260. Copies of the procedure are available in 102 Sproul Hall.

Graduate students should consult the Graduate Division for information about grievance procedures.
The University's first scientific station was the Lick Observatory, which UC obtained in 1888. In its early years, the observatory was the site of the world's most powerful telescope, a 36-inch refractor.
Walter A. Haas School of Business

Office: Student Services Wing, 642-7989
Undergraduate Program:
http://haas.berkeley.edu/undergrad
M.B.A. Program: http://haas.berkeley.edu/MBA
Evening M.B.A. Program:
http://haas.berkeley.edu/EMBA
Ph.D. Program: http://haas.berkeley.edu/Phd

Dean:
Laura D’Andrea Tyson, Ph.D.
Associate Deans:
Andrew W. Shogan, Ph.D. (Instruction)
Jay S. Stovisky, Ph.D. (School Affairs and Initiatives)
Russell S. Winer, Ph.D. (Academic Affairs)

Directors:
David C. Mowery, Ph.D. (Ph.D. Program)
Diane Dimoff, M.B.A. (Evening M.B.A. Program)
David H. Downes, Ph.D. (M.B.A. Program)
Dan Himelstein, M.Sc. (Undergraduate Program)

Undergraduate Program

The bachelor of science degree in business administration constitutes an important service to the public and the business and government communities and serves as a respected model for other schools in the West. The school’s program is less focused than graduate instruction. Its true distinctiveness resides in the integration of a well-rounded liberal arts education with a professional concentration in business administration. An excellent foundation is also provided for students preparing for graduate professional degrees in business, law, and public policy.

Students are admitted only at junior level. Before applying to the school, you should obtain an Announcement of the Undergraduate Program of the Haas School of Business, available in S450 Student Services Wing. The announcement contains complete information concerning academic qualifications for admission, with details about prerequisites and degree requirements. Because there are many more applicants than spaces available, completion of the prerequisites does not guarantee admission. Requests for advice on programs of study and general information should be addressed to the Walter A. Haas School of Business, University of California, Berkeley; S545 Student Services Wing #1900; Berkeley, CA 94720-1900; telephone 642-1421; Web site: http://haas.berkeley.edu/Undergrad.

Lower Division. Students preparing for admission to the Undergraduate Business Program may complete required lower division courses in any college in the University, or equivalent courses at other institutions. Counselors in the undergraduate school will assist lower division students in selecting courses prerequisite to the upper division business administration curriculum. Detailed information on required preparation is available in the Announcement of the Undergraduate Program of the Haas School of Business.

Upper Division. Upper division core courses to be taken at Berkeley are:

100—Business Communication
110—Microeconomic Analysis for Business Decisions
111—Macroeconomic Analysis for Business Decisions
120—Introduction to Financial Accounting
123—Managerial Accounting
130—Financial Management
150—Organizational Behavior
160—Marketing
170—Social and Political Environment of Business

Beyond these requirements, additional courses within seven subject matter fields must be taken. Advisers will assist you in the selection of these courses. A minimum of 32 units in upper division business courses is required.

The following subject matter fields are available:
Accounting, economic analysis and policy, finance, general management, manufacturing and information technology, marketing, organizational behavior and industrial relations, and real estate and urban land economics.

Graduate Degrees

The Haas School of Business offers curricula leading to the Master of Business Administration degree and the Ph.D. degree. The Haas School offers two separate M.B.A. programs: a two-year program for full-time students and an evening program for fully employed students (Evening M.B.A.) that takes three years to complete on a part-time basis.

The M.B.A. Program

The Haas School offers a strong general management program that prepares its graduates to understand the economic, social, political, and technological forces driving global competition and to become effective leaders of modern organizations. The school is increasingly well-known nationally and internationally for its focus on international business, innovation and entrepreneurship, and the management of technology.

Unusually flexible in its range of courses and electives for second-year students, the full-time M.B.A. program emphasizes cooperative work in teams and small groups.

With approximately 30 percent international students (evenly divided between Europe, Asia, and South America) and more than 30 percent women (38 percent entering in 1998), the program reflects the diverse global environment in which its graduates will pursue their careers.

The diverse student body of some 480 students represents more than 200 colleges and universities, 40 countries, and a wide range of academic and professional backgrounds.

CAL Quiz
No. 26
The first African American scholar to hold a tenured faculty position at the University of California served at Berkeley. Who was he and when did he join the faculty?
(Answer on page 457.)
The Haas School co-sponsors four concurrent-degree programs:

• M.B.A./J.D. with Boalt Hall or Hastings College of the Law;
• M.B.A./M.P.H. in health services management with the School of Public Health;
• M.B.A./M.A. in Asian studies with the Group in Asian Studies.

In addition, two joint curriculum programs are offered:

• The Management of Technology Joint Program with the College of Engineering leading to a certificate in the management of technology.
• The Real Estate Development Program with the Department of City and Regional Planning and the Center for Real Estate and Urban Economics.

Curriculum. Students in the full-time program must complete 56 semester units to graduate: 32 units of core required courses and 24 units of electives. Core courses may be replaced by electives by passing a waiver exam. There is also a two-year residency requirement.

Haas students may apply 6 units of credit toward their degree from courses outside the department, such as languages or law, and they are encouraged to take full advantage of the range of course offerings at Berkeley. More than 6 units can be taken by petition.

Students outside the M.B.A. program may take courses on a space-available basis only. They should consult the M.B.A. office directly before attempting to register for any courses.

Exchange Programs. The Haas School offers 13 exchange programs with some of the finest business schools in Europe and Asia. The following European schools participate: London Business School in Great Britain, L'Ecole des Hautes Etudes Commerciales (HEC) outside Paris, the Rotterdam School of Management in the Netherlands, Solvay Business School in Brussels, Wirtschaftsuniversitat in Vienna, SDA Bocconi in Milan, and IESE and ESADE in Barcelona. In South America, we have ITAM in Mexico City and Fundação Getúlio Vargas in São Paulo, Brazil. In Asia, we have programs with Keio University in Japan, Chinese University of Hong Kong, and Hong Kong University of Science and Technology. In addition, the Washington Campus Program in our nation's capital and the MBA Enterprise Corps in Eastern Europe provide Berkeley students with opportunities to enhance their education.

Admission. Applications for the full-time M.B.A. program are accepted for fall entry only. Each year, the school receives more than 4,000 applications for about 240 positions in the entering class. The average age of entering students is 28 years and all have significant full-time business experience before entering the program. Interviews are strongly recommended.

Because admission to the program is extremely competitive, the Admissions Committee uses the following criteria for admission: a superior scholastic performance; a substantial employment history that demonstrates potential for a career in management; and personal attributes that suggest leadership, maturity, interpersonal skills, social and civic responsibility, social and civic responsibility, ethical character, and goal orientation.

Applicants are strongly urged to submit completed applications as early as possible. Domestic applications are reviewed beginning in November and are evaluated on a rolling basis, generally in the order of their receipt. Early application for international students is especially important since their academic records take longer to evaluate and their applications will be reviewed on a country-by-country basis.

Career Center. Representatives from more than 200 firms recruit at Berkeley each year. In addition to assisting with full-time job placement, the Haas Career Center identifies summer internship opportunities for first-year students.

The Career Center also assists students in choosing and attaining career objectives and in preparing for the job search. This preparation includes workshops on interviewing and writing cover letters and résumés, videotaped mock interviews, and proactive-search seminars. Workshops are presented by Career Center staff and outside experts.

Campus Visits. The Haas School encourages prospective students to attend information sessions at Berkeley. Organized by first- and second-year students, these presentations cover life in the program from the student perspective. Information sessions are held daily.

I'm stressed out, but I like it that way. I take baths and go to bed early.

4th-year student
The Evening M.B.A. Program

The Haas School of Business also offers the M.B.A. program on a part-time basis. This three-year Evening M.B.A. program is available to students who are fully employed and are seeking to add value to their academic background and professional experience while maintaining their current career momentum.

Students may enter the program in the fall semester and must have completed five prerequisite courses or their equivalents before enrollment. These prerequisites are introductory courses in microeconomics, macroeconomics, financial accounting, statistics, and a college-level mathematics course. Courses must have been taken within the past seven years, and applicants must have earned grades of B or higher. Admission criteria for the Evening M.B.A. program are identical to those for the full-time M.B.A. program.

Students in the Evening M.B.A. program must complete 40 semester units to graduate: 19 units of required core courses and 21 units of elective courses. Classes are held on the Berkeley campus Monday through Thursday from 6:00 p.m. to 9:30 p.m. Students attend classes two nights per week and may enroll in day courses on a space-available basis.

Applications. The Evening M.B.A. program accepts applications throughout the year for the fall semester. Requests for information and application materials should be addressed to:

Haas School of Business, University of California, Berkeley; Evening M.B.A. Program #1906, Berkeley, CA 94720-1906; telephone 642-0292; Web site: http://haas.berkeley.edu/EMBA.

The Ph.D. Program

The Ph.D. program of the Walter A. Haas School of Business is an advanced and scholarly course of study in the functioning of business and its interaction with the environment. It combines an in-depth examination of one or more of the traditional fields of study in business administration with a broader, integrative investigation of basic and applied theory in the social sciences and in quantitative methods. Fields of primary specialization include accounting, business and public policy, finance, marketing, and organizational behavior and industrial relations. Students in any primary specialization may also choose to concentrate in strategy by taking additional course work. The program also enrolls students with interests in real estate, provided they take the required course work in either accounting or finance.

The Ph.D. program includes periods of intensive work in formal courses as well as individually developed and executed reviews of special topics and programs of research. It provides the opportunity to work closely with an internationally known faculty both in the classroom and in individual scholarly investigation.

The purpose of the program is to train men and women for careers in the research, study, and teaching of business administration. It is designed to enable students not only to become critically familiar with the sophisticated technical and theoretical disciplines underlying the practice of business administration, but to develop the capacity to contribute to their extension. A distinguishing feature of Berkeley's program is an emphasis on research. Since the end of World War II, the application to business of theory and methodology from the social sciences and quantitative methods from the applied sciences has resulted in an accelerated rate of knowledge acquisition. This change has significantly deepened the sophistication of research work and broadened the range of analytical concepts with which the student in business must be familiar. The intention of the Berkeley faculty is to train students who will take leadership roles in the future expansion and communication of this knowledge.

The teaching and research skills provided by the Ph.D. program have become virtually mandatory for positions in colleges and universities. These skills are also of increasing importance for a small but expanding number of jobs in business and government. These opportunities are likely to be found in consulting, research, and technical advisory firms, with some Ph.D.'s in business administration starting their own companies. While a few may take positions as administrators in large companies, the Ph.D. program is not the best way to prepare for such posts. Those who want a professional degree to prepare them for responsible administrative positions will find the M.B.A. degree the appropriate course of study.

Compared to the Ph.D. programs at most other universities, the Berkeley plan is strongly discipline and research oriented. Emphasis is placed on preparing students to evaluate existing knowledge and to advance the work in their fields through the application of theory from the social sciences, mathematics, or statistics. The importance of quantitative skills in this mix varies by field of study within business administration, but all students must attain sufficient proficiencies to read and keep pace with an increasingly mathematical literature.
Instruction in the program may be separated into three general periods. The first encompasses formal course work in basic and advanced subjects. The time devoted to these studies, typically two years, depends largely upon a student’s prior preparation.

In the second period, directed study, students work closely with faculty members to prepare for research in their selected fields.

In the last period, individual research, students work on their dissertations. Together, periods two and three usually require two to three years to complete.

Preparation for the Ph.D. Program. Admission to the Ph.D. program is open to students with an accredited bachelor’s degree, or higher, from any field. No preference in admission is given to any previous field of study or to applicants who have had some graduate training. Applicants should possess strong skills in writing and oral communications and have a basic understanding of differential calculus.

Ph.D. applications will be evaluated on the basis of evidence of a high level of scholarly ability in both quantitative and qualitative skills, the motivation to complete a strenuous academic program, and a clear statement of career objectives that are consistent with the Ph.D. degree.

Applications for the Ph.D. program may be obtained by writing to the Ph.D. Program Office, Haas School of Business, University of California, Berkeley; F655 Faculty Wing #1900, Berkeley, CA 94720-1900; Web site: http://haas.berkeley.edu/Phd.

College of Chemistry

Office of the Dean: 420 Latimer Hall
Undergraduate information: call 642-3452 or visit http://www.chem.berkeley.edu
Graduate information: call individual departments
Dean:
Alexis T. Bell, Sc.D.
Associate Dean (Undergraduate Affairs):
Herbert L. Strauss, Ph.D.
Assistant Dean (Services):
K. Peter C. Vollhardt, Ph.D.
Assistant Dean (College Relations):
Jane L. Scheiber, A.B.

The College of Chemistry comprises two departments, the Department of Chemical Engineering and the Department of Chemistry. Both disciplines have an impact on major world problems. Finding new sources of energy, recovering and utilizing dwindling mineral resources, developing new drugs and food supplies, understanding and protecting the environment, and synthesizing new products biochemically all depend centrally upon chemistry and chemical engineering. Students entering these fields will spend their careers in the middle of the action on these and other highly important areas of research.

Both departments in the College of Chemistry rank nationally and internationally among the most prominent in their fields and both are renowned for their breadth of activity in a diverse range of subdisciplines and applications. At the same time, with only two departments, the college is a relatively small and comfortable place in which to work. Faculty members have many demands on their time, but students are able to develop close and satisfying contacts with them while in the college.

The college offers programs leading to the B.S., M.S., and Ph.D. degrees in both chemistry and chemical engineering. The B.S. degree in chemistry is intended for students who are primarily interested in careers as professional chemists or wish a thorough grounding in chemistry in preparation for professional school. The B.S. degree in chemical engineering is intended as preparation for a career in chemical engineering and related disciplines. Chemical engineering majors specialize in one of six interdisciplinary options: applied chemistry, applied physics, biotechnology, chemical processing, environmental technology, or materials science. Also, two B.S. degree double major programs (Chemical Engineering and Materials Science and Engineering, and Chemical Engineering and Nuclear Engineering) are available.

The College of Letters and Science offers a chemistry major leading to an A.B. degree through a curriculum with a greater proportion of courses in the humanities and social sciences than is included in the B.S. chemistry program. It is intended for students interested in careers in teaching, medicine, or other sciences in which a basic understanding of chemical processes is necessary.

Advanced undergraduate and graduate students have opportunities to conduct research in synthetic and structural chemistry of organic and inorganic compounds, chemistry of natural products, theoretical chemistry, nuclear chemistry, physical chemistry, biophysical chemistry, solid-state and surface chemistry, catalysis, process design and control, polymers, materials processing (including electronic materials), food processing, and biochemical engineering.

Recommended high school preparation for chemistry or chemical engineering should include chemistry (1 year); physics (1 year); mathematics (4 years, including trigonometry, intermediate algebra, and analytic geometry); and a foreign language (2 years, preferably German, Russian, or French).

For a more specific description of the programs for the various degrees, as well as options of specialization, see the Announcement of the College of Chemistry.
What piece of precious metal that has more historical than monetary value can be found in the Bancroft Library on campus?

(Answer on page 457.)

Organizational Units

Chemical Engineering
Department Office: 201 Gilman Hall #1462, 642-2291
Chair: Harvey W. Blanch, Ph.D.

Chemistry
Department Office: 419 Latimer Hall #1460, 642-5882
Chair: Paul A. Bartlett, Ph.D.

Graduate School of Education

Office: 1600 Tolman Hall, 642-5345
E-mail: gse_info@uclink.berkeley.edu
http://www-gse.berkeley.edu
Dean:
Eugene E. Garcia, Ph.D.

At the Graduate School of Education, faculty and students work together to advance the theoretical base of education. They tackle issues of fundamental importance, both inside and outside of school settings, promoting the improvement of educational practice. To accomplish this, the Graduate School of Education makes use of a coherent, integrated, and collaborative set of strategies emphasizing excellence in scholarship, teaching, and professional development, with the goal of enhancing opportunity for all.

Several aims guide these efforts: 1) addressing the challenge of diversity; 2) understanding fundamental literacies (linguistic, mathematical, scientific, and technological) and how to foster them; and 3) developing and elaborating theories of thinking, learning, and teaching in complex social contexts, including homes, schools, and workplaces.

Those involved in the field of education are now immersed in a complex set of challenges—locally, regionally, nationally, and internationally. At no other time have we faced the substantive challenge of merging issues of equity and excellence in such a dramatic way.

Not only are many of you familiar with these challenges, but you value and welcome them. Our commitment to ensure that all students have a successful educational experience will help other educators and community members embrace these challenges.

The school offers programs that lead to advanced degrees in education: the M.A., the Ph.D., and the Ed.D. In addition, the school grants credentials to professionals who plan to work in the schools as teachers and school psychologists.

The Graduate School of Education includes three academic groups: 1) Cognition and Development; 2) Education in Language, Literacy, and Culture; and 3) Policy, Organization, Measurement, and Evaluation. There is also a program in Social and Cultural Studies in Education. Each specialization represents an approach to the study of education or a substantive area of educational study.

The Cognition and Development (CD) area of study unites faculty whose research and teaching interests focus on the interplay between social and developmental processes in diverse areas of human knowledge and experience. The faculty focus on social and moral development, as well as mathematics, science, and technology. Faculty research typically occurs in field settings (classrooms, museums, informal social groups), providing fertile sites for conceptual advances as well as the improvement of educational practices. Cognition and Development supports both professional and academic programs, each enriching the other in courses and research opportunities.

Education in Language, Literacy, and Culture (ELL) is particularly committed to preparing students to work with those who have been poorly served by existing educational institutions. Research in these areas takes an interdisciplinary perspective and is informed by the work in language, literacy, instructional and sociocultural theory, as well as applied linguistics. The ELL faculty is committed to preparing researchers and educators who will serve as leaders in higher education and agents of change in public education in the areas of literature, English education, reading education, second language teaching and learning, and teacher education.

Programs in Policy, Organization, Measurement, and Evaluation (POME) emphasize the study of schools as institutions, the history and process of educational change and reform, the formulation and effects of educational policy, and the methodology of research, measurement, and evaluation in education. POME faculty have strengths and interests that combine:

- a focus on the institutions of schooling, analyzed from various disciplinary perspectives including sociology, economics, history, and philosophy;
- experience in linking research, policy, and practice at the national, state, and local levels;
- a breadth and depth of methodological, measurement, and evaluation expertise adequate both to mount ambitious programs of policy-oriented research and to inform sound institutional leadership and decision making.

The Ph.D. program in Social and Cultural Studies in Education (SCS) is in social and cultural analysis and social theory. The program is interdisciplinary, involving anthropology, sociology, history, and philosophy—not as separate disciplines, but in their complex interaction. The faculty have special interests in research that expands our understanding of what constitutes educational sites and practices, especially in the workplace. The faculty also is deeply involved in exploring the role of educational practices of all kinds in the production and reproduction of poverty and inequalities of race, gender, and social class. Social and Cultural Studies perspectives recognize that public schools in
the U.S. are but one among an infinite range of sites of learning. Of equal importance is an investigation of the broader cultural and societal contexts that frame and constitute educational practices.

**Undergraduate Minor**

The School of Education offers a minor in education for undergraduates currently enrolled at Berkeley. The minor in education provides an opportunity to examine systematically an institution that occupies a unique position in society and profoundly influences virtually everyone. This program is designed to enable students to develop a critical understanding of the relationships of education to the development of societies and individuals. Its focus is on the potential as well as the reality of diverse forms of education. The minor offers an opportunity for intellectual inquiry to broaden and complement students’ work in their major fields of study. In the process, students will encounter the wide array of professional possibilities in the field of education, enabling those considering a career in the field to make an informed choice.

For more information regarding this program, please come to 1600 Tolman Hall to pick up a handout describing the minor and its requirements, and to speak to the undergraduate minor adviser.

**College of Engineering**

Office of the Dean: 320 McLaughlin Hall; graduate information, call individual departments; undergraduate information, call 642-7594

Dean: Paul R. Gray, Ph.D.

Associate Deans:
- Alice M. Agogino, Ph.D. (Special Programs)
- James Casey, Ph.D. (Interdisciplinary Studies)
- Keith C. Crandall, Ph.D. (Capital Projects)
- To be announced (Research and Student Affairs)

The College of Engineering consists of seven departments and an interdisciplinary studies program. Each department has its own faculty, set of courses, fields of specialization, and curriculum requirements. Six departments offer programs leading to the B.S. and graduate degrees.

The college includes the departments of:
- Bioengineering
- Civil and Environmental Engineering
- Electrical Engineering and Computer Sciences
- Industrial Engineering and Operations Research
- Materials Science and Mineral Engineering
- Mechanical Engineering
- Nuclear Engineering

Each department with its degree programs is listed separately in alphabetical order in this catalog. There are also separate listings for programs in:
- Applied Science and Technology
- Biophysics
- Engineering—Double Majors
- Engineering Science
- Manufacturing Engineering
- Ocean Engineering

Additional sections of interest are:
- Engineering courses
- Engineering—Interdisciplinary Studies
- Interdepartmental Studies courses
- Chemical Engineering (part of the College of Chemistry)
- Computer Science (part of the College of Letters and Science)

**Undergraduate Programs**

The college offers programs in a wide variety of engineering fields. These programs are based on the concept that an engineer must be well-grounded in the sciences, humanities, and social studies, with full command of the principles and practices of the engineering profession.

Four-year undergraduate curricula are offered in the following professional fields: bioengineering, civil engineering, electrical engineering, computer science, industrial engineering and operations research, mechanical engineering, mineral engineering, and nuclear engineering. All are accredited by the Accreditation Board for Engineering and Technology, Inc. Programs are also offered in manufacturing engineering, materials science, and earth resources engineering. Each of the curricula is administered by a department within the college and each emphasizes a core program of science and engineering subjects related to the
At Berkeley, you begin to understand a lot about different cultures. Last year, as a first-year student, I'd stay up until 3 or 4 in the morning just talking to people. It's interesting when you hear and learn about other people. That's what I feel the college experience is, meeting new people and getting to know about their lives.

2nd-year student

At about their 2nd-year student talking what a first-year student, and getting to know other cultures. It's interesting when you meet new people. It's the College of Engineering and the College of Engineering.

Admission to an engineering double major is open to transfer students. Admission is closed to entering freshmen. Continuing students may petition for change to a double major in the final semester of their sophomore year. Students interested in the double majors with chemical engineering must apply for admission to the College of Chemistry.

The College of Engineering offers a series of courses in energy engineering open to junior and senior engineering students and qualified students in other fields. These courses are listed under “Engineering” and are sponsored by individual departments or groups of departments as indicated. The courses are intended to provide a sound introduction to the identification and analysis of energy issues. These courses include nuclear fission and fusion and hydroelectric power generation; geothermal, tidal, and solar power; direct energy conversion; and air pollution.

Degree Requirements. Engineering students must fulfill University of California, Berkeley campus, and College of Engineering requirements to graduate.

The unit requirement for the bachelor's degree is normally 120 semester units, within which the student is expected to satisfy graduation requirements. This minimum may be exceeded for valid reasons. To exceed 125 units, prior approval of the dean is required for registration.

Admission Requirements. Entering freshmen should have completed the following subjects:

High School Subjects and Units:

- United States history—1 (one year of United States history or one-half year of United States history and one-half year of civics or American government.)
- English—4
- Mathematics—4
- Physics—1

Chemistry—1
Foreign language—2
Other college preparatory subjects—2
Total units—15

Graduate Programs

Graduate programs are offered leading to the Master of Science and Doctor of Philosophy degrees for study emphasizing engineering and applied sciences, and Master of Engineering and Doctor of Engineering degree programs emphasize advanced professional studies of design development. Fields of study include bioengineering, civil and environmental engineering, electrical engineering and computer sciences, industrial engineering and operations research, mechanical engineering, nuclear engineering, ceramic engineering and materials science and mineral engineering, petroleum engineering and geoscience, fluid mechanics, applied mechanics, and naval architecture and offshore engineering. Interdisciplinary graduate programs are also available in the fields of bioengineering, biophysics, ocean engineering, plasmas, environmental engineering, applied science and technology, management of technology, robotics and manufacturing, fire safety engineering science, surface and subsurface hydrology, and rock mechanics.

Concurrent degree programs provide a broad, integrated curriculum between two disciplines. Degrees awarded are an M.Arch. in Architecture with an M.S. in Civil and Environmental Engineering (Structural); an M.C.P. in City and Regional Planning with an M.S. in Civil and Environmental Engineering (Transportation); and an M.P.P. in Public Policy with an M.S. in an engineering department.

More information will be found in the engineering sections of this catalog and in the Announcement of the College of Engineering. The announcement is available from the College of Engineering, University of California, Berkeley: 308 McLaughlin Hall #1702, Berkeley, CA 94720-1702, or from any organizational unit listed below.

Organizational Units

Bioengineering
Department Office: 459 Evans Hall #1762, 642-5825
Chair: Thomas F. Baudinger, M.D., Ph.D.

Civil and Environmental Engineering
Department Office: 760 Davis Hall #1710, 642-3261
Chair: Adib Kanaani, Ph.D.

Electrical Engineering and Computer Sciences
Department Office: 231 Cory Hall #1770, 642-3214
Chair: Randy Katz, Ph.D.
Associate Chair: Andrew R. Neureuther, Ph.D.

Computer Science Division
Division Office: 389 Soda Hall #1776, 642-1024
Vice Chair: Carlos Sequin, Ph.D.
Industrial Engineering and Operations Research
Department Office: 4135 Etcheverry Hall #1777, 642-5484
Chair: Candace A. Yano, Ph.D.

Materials Science and Mineral Engineering
Department Office: 577 Evans Hall #1760, 642-3801
Chair: Thomas M. Devine, Jr., Ph.D.

Mechanical Engineering
Department Office: 4103 Etcheverry Hall #1730, 642-1338
Chair: David B. Bogy, Ph.D.

Nuclear Engineering
Department Office: 230 Bechtel Engineering Center #1708, 642-8790
Chair: William E. Kastenberg, Ph.D.

Interdisciplinary Studies
Program Office: 577 Evans Hall #1770, 642-3801
Associate Dean: David B. Bogy, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.

Chair: Candace A. Yano, Ph.D.
the college beyond 130 semester units is not usually permitted; consequently, California community college transfer students may receive up to 70 semester units of transfer credit. Units above 70 receive no credit. Transfer students from four-year institutions who have credit for more than 86 semester units are not normally admitted to the undergraduate program.

An undergraduate major in architecture or landscape architecture is not a prerequisite for admission to graduate study in these fields.

Degree Requirements. The A.B. degree programs in the college require the completion of 120 units distributed according to regulations that appear in the Announcement of the College of Environmental Design, available from the Undergraduate Dean’s Office, University of California, Berkeley, 232 Wurster Hall #1800, Berkeley, CA 94720-1800.

Minor Programs. The College of Environmental Design offers several minors. Minors consist of at least five upper division courses as an optional program with two objectives: to encourage coherence in course work taken outside the major, and to give recognition to the work when it is completed. The following minors are currently being offered to all majors: city and regional planning, ecological design, environmental design in developing countries, history of the built environment, landscape architecture, and social and cultural factors in environmental design. The architecture minor is open to landscape architecture and civil engineering majors only. The landscape design minor is open to architecture majors only. For further information, contact the Undergraduate Office, 232 Wurster Hall.

Information on the courses and degree programs in architecture, city and regional planning, environmental design, and landscape architecture can be found in those sections of this catalog, as well as in the Announcement of the College of Environmental Design.

Graduate Programs

Architecture, City and Regional Planning, and Landscape Architecture each offer accredited professional master’s degree programs that serve as the basic credential for professional practice in the respective fields. The departments also have concurrent and joint degree programs that combine professional degrees in two fields either within the college or with other professional schools. An M.A. degree in design is offered for a very few students, and an interdisciplinary program offers a master’s degree in urban design.

The three departments have advanced graduate programs leading to the Ph.D. degree for students who have the capacity to engage in research and teaching. A research M.S. degree in architecture also is available. These programs have limited enrollments and are not regarded as advanced degrees for professional practice.

An undergraduate major in architecture or landscape architecture is not a prerequisite for admission to graduate study in these fields.
Information managers must be familiar with the technology used to store, organize, and retrieve information in business, government, libraries, and academic settings. However, technical expertise alone is not sufficient for success; SIMS graduates are expected to not only manage technology but to manage information and people as well, and they need to acquire the necessary skills to do this effectively.

Today's information managers need to understand how to organize information and design front ends for information systems that allow for efficient and effective user interaction. They need management skills to direct the development and deployment of software systems, and they must be able to assure the quality of information and its value to those who will use it for decision making. Most importantly, they need to understand the economic and social environment in which their organization functions and be familiar with the relevant issues in law, economics, ethics, and management.

This profession is inherently interdisciplinary, requiring aspects of computer science, cognitive science, business, law, library/information studies, and communications. Graduates of SIMS find employment in major corporations, government offices, the media industry, libraries, and academic institutions—anywhere information is created and managed.

The Master's Degree in Information Management and Systems

The Master of Information Management and Systems program is a 42-unit, two-year program designed to train students in the skills needed to succeed as information professionals.

The first year of the program consists of a core curriculum with coursework in organization of information and database design, analysis of information-seeking behavior, technical and social aspects of the telecommunications infrastructure, and project design and management. The second year involves further study in the core areas along with additional electives, with the expectation that the student will specialize in particular aspects of information management and systems. During the summer between the two years, students will be able to participate in an internship program in order to use their newly acquired skills in real-world settings. Internships will be arranged in corporate, government, and nonprofit institutions.

The Ph.D. Program

The doctoral program is a research-oriented program in which the student chooses specific fields of specialization, prepares sufficiently in the literature and research of those fields to pass written and oral examinations, and completes original research culminating in the written dissertation. The degree of Doctor of Philosophy is conferred in recognition of a candidate’s grasp of a broad field of learning and distinguished accomplishment in that field through the contribution of an original piece of research revealing high critical ability and powers of imagination and synthesis.

A minimum of two years, or four semesters, in academic residence is required for the Ph.D. There are no specific unit requirements to fulfill, beyond introductory seminars in the student’s specific field of interest. Fields of study for the Ph.D. follow:

- Information users and society
- Organization and representation of information
- Management of information organizations and services
- Economics of information
- Information retrieval
- Information technology
- Systems analysis, design, and implementation
- Information policy
- Law and information management

The course of progress toward the Ph.D. is divisible into two major periods: the period ending with advancement to candidacy for the Ph.D., and the period ending with award of the degree. Advancement to candidacy, which takes place on the recommendation of the school to the Graduate Council, requires these steps:

- Passing any required language examinations;
- Passing departmental preliminary qualifying examinations conducted by an ad hoc committee of the faculty of the school;
- Passing an oral qualifying examination administered by a committee appointed by the Graduate Council;
- Approval of a dissertation proposal by an ad hoc committee of the faculty.

Language requirements are determined on the basis of the student’s choice of fields of study for the qualifying examinations. The departmental preliminary qualifying examinations may take the form of formal written examinations, preparation of papers (over a period of time set by the examining committee, on topics set by the committee), or review of written work previously done by the candidate, or a combination of these forms. After advancement to candidacy, the candidate must complete a dissertation under the guidance of a committee appointed by the Graduate Council. The committee consists of three members, one of whom must be from a department other than Information Management and Systems. Before final action is taken on the dissertation, the committee may, if it deems necessary, require the candidate to defend the dissertation in a formal oral examination.
The Graduate School of Journalism offers several courses for undergraduates, ranging from small writing and reporting seminars to large lecture courses.

Further information, application requirements, and copies of the Announcement of the Graduate School of Journalism are available from the Journalism Office, North Gate Hall.

Office: Boalt Hall, 642-1741
http://www.law.berkeley.edu

Administrative Officers:
Dean:
Herma Hill Kay, J.D.
Associate Deans:
Eleanor Swift, LL.B.
Harry N. Scheiber, Ph.D.
Assistant Deans:
Victoria Ortiz, J.D.
Lujiana Treadwell, J.D.

Vice Chair, Jurisprudence and Social Policy:
Charles J. McClan, Jr., Ph.D., J.D.

The School of Law (Boalt Hall) has a three-year curriculum leading to the Juris Doctor (J.D.) degree. Educators at Boalt are faced with the varied needs of teaching students not only to understand legal doctrine but the forces that shape it, of providing experience in the basic working skills of the lawyer who must be able to grow and function for a half century in a constantly changing legal system, and of preparing students for the inevitable policy-making roles lawyers are called upon to fill in a complex world. To this end, Boalt's curriculum is constantly undergoing reexamination and evolution. It currently includes concentration programs in Environmental Law, International Law and Comparative Legal Studies, and Law and Technology. A new concentration in Social Justice and Public Interest Law is being developed. A number of concurrent degree programs are available with other Berkeley campus graduate departments and with the Kennedy School of Government at Harvard University and The Fletcher School of Law and Diplomacy at Tufts University. Other combined degree programs are arranged on an individual basis. The school is a member of the Association of American Law Schools and is approved by the American Bar Association. Its graduates are qualified to become applicants for admission to practice in any state of the United States. No single "pre-law" major is required or even recommended. However, these suggestions are made: students should learn to write by taking courses in which their work is vigorously edited; enroll in courses that demand analytical skills; obtain some breadth in humanities and social sciences that will help in under-
standing the social context within which legal problems arise; and acquire a general understanding of economic principles and the business world. However, prospective students should not be deterred from pursuing the study of law merely because their undergraduate education has not emphasized these areas. Diversity of background enhances and enriches the legal experiences of all students.

The school also offers programs, mainly for foreign-educated attorneys, that lead to the degree of Master of Laws (J.L.M.) or the degree of Doctor of the Science of Law (Juris Scientiae Doctor, J.S.D.).

The school does not provide a part-time or an evening program. It admits an entering class once a year for the fall semester. The first-year curriculum includes prescribed courses and one elective in the spring semester. Second and third year courses are elective.

Graduate Program in Jurisprudence and Social Policy. The School of Law offers a graduate program in Jurisprudence and Social Policy, leading to M.A. and Ph.D. degrees.

The program is unique in legal education. It is founded on two related convictions: (1) legal scholarship should have intimate connections with the social sciences; and (2) education in a law school should not be confined to the professional training of future lawyers.

The program is multidisciplinary, involving faculty from law and a variety of humanities and social science disciplines, including economics, criminology, history, philosophy, political science, and sociology. It is designed for students who are interested in careers in teaching, research, policy analysis, or public administration.

Study for a degree in Jurisprudence and Social Policy may be combined with study for a J.D. degree. Further information on admission procedures and program requirements may be obtained from the graduate assistant, JSP Program.

The College of Letters and Science offers undergraduate students a variety of programs leading to the Bachelor of Arts degree in four academic years of full-time study.

The first two years are a time of exploration, experimentation, and decision. In the last two years students confirm the decision and acquire and refine special knowledge, usually in their major departments. The college's departments are devoted to instruction and research in a variety of academic subjects. Each department represents a style of study and communication and refined development of a set of structured ideas. The subjects of the departments overlap and complement one another.

Requirements for Admission in Advanced Standing

Students applying for admission will not be considered if they have completed more than 80 semester (120 quarter) units. The dean of the college makes exceptions to this policy only in unusual circumstances. Applicants with advanced-placement credit may, however, exceed the 80-semester-unit limitation by the amount of their advanced-placement credit and be admissible if they meet all other admission criteria.

In computing the number of units which they have completed, students should be aware that the College of Letters and Science does not grant unit credit for courses completed in a two-year college after a total of 70 semester units has been completed. Subject credit toward completion of college requirements is, however, granted for appropriate courses.

Transfer students with 56 or more semester units are expected to have satisfied, before admission to the college, the reading and composition breadth requirement, the foreign language breadth requirement, and the quantitative reasoning breadth requirement of the college. Students who apply as intercampus transfers and who have completed all the Letters and Science breadth requirements, or the general education requirements, or the equivalent of either, at the University of California campus from which they transfer may, upon petition, be credited with having completed the breadth requirements of the college. Transfer students who apply from community colleges in California have the option of fulfilling lower division breadth requirements by completing the Intersegmental General Education Transfer Curriculum (IGETC). This program specifies a series of subject areas and types of courses which, if completed before transfer, will satisfy the lower division breadth and general education requirements at any general campus of the University of California.

Note: In recent years, all major programs have turned away qualified applicants because of space limitations. Transfer applicants should be aware that admission to all majors in the college is competitive.
Biological Sciences Majors. Students planning to declare majors in a biological science must in addition have completed the minimum subject preparation in the major with a grade-point average of 2.00 (C average) or higher. The subject preparation listed below is minimal; transfer students who wish to declare a major in a biological science are urged to consult directly with the department or program in which they are interested to learn of additional requirements or of any restriction placed on entry to the major. The subject preparation for majors in the biological sciences is as follows:

Students who have completed 56 to 70 semester units:
1. General chemistry with laboratory (equivalent to one year of Berkeley's inorganic chemistry with laboratory).
2. General biology with laboratory (equivalent to Berkeley's Biology 1A-1B).

Students who have completed 71 to 80 semester units must complete in addition to points 1 and 2 above:
3. Introductory organic chemistry with laboratory (equivalent to Berkeley's organic chemistry with laboratory).

Requirements for the Bachelor of Arts Degree

Students must complete a minimum of 120 semester units, distributed according to regulations which appear in the College of Letters and Science's Guide to Earning Your Degree. A 15-unit class schedule per semester is considered to be a normal course load; a class list of fewer than 13 units requires the special permission of the dean. There are also scholarship, minimum-progress, residence, breadth, and major requirements; these are described in the announcement as well. Brief descriptions of the breadth, major, and minor requirements appear below. Major and minor programs are outlined under the department, field, or group headings in this publication. In addition, students must satisfy the University requirements in Subject A, American History, and American Institutions, and the Berkeley campus American Cultures requirement.

Breadth Requirements. There are four breadth requirements:

1. Reading and Composition. Students must normally complete the first half of the requirement (an "A" course) during the freshman year and the second half of the requirement (a "B" course) during the sophomore year. Students must complete the requirement through course work according to the requirements of the semester system, whether the course work is undertaken at Berkeley or elsewhere.

2. Quantitative Reasoning. This requirement may be fulfilled by satisfactory performance in an examination or by successful completion of an acceptable college course. Information about acceptable examinations and acceptable courses is included in the announcement.

This requirement, if satisfied by course work, must be completed without delay.

3. Foreign Language. This requirement assures that students who graduate from the college will have some knowledge of the language of a culture other than their own. Students who have not satisfied the language requirement at the time of admission must complete it without delay. The requirement may be satisfied by (a) completion of the third year of one foreign language in high school with a minimum grade of C-,(b) by completion of the second semester of a Berkeley course, or its equivalent elsewhere, in one foreign language with a minimum grade of C-, or (c) by demonstration of equivalent knowledge through examination, including the College Entrance Examination Board Achievement Test, the CEEB Advanced Placement Examination (if taken before admission to the college), or an acceptable foreign language placement examination offered by a foreign language department at Berkeley or on another campus of the University of California.

4. Seven-Course Breadth Requirement

Students must take one course from each of the following categories, with no more than two courses in the same department:

- one course in physical science;
- one course in biological science;
- one course in arts and literature;
- one course in historical studies;
- one course in philosophy and values;
- one course in international studies (lower division language instruction excluded) or participation in the University of California Education Abroad Program or a recognized equivalent; and
- one course in social and behavioral sciences.

These courses may be taken from the College of Letters and Science and the professional schools and colleges and may be spread over the four years of college attendance. See the College of Letters and Science's Guide to Earning Your Degree for details and a list of the approved courses that you may take to fulfill the requirement.

Major Programs. All students must pursue and complete a major program, the object of which is to provide them with a limited experience in specialization. There are more than 60 departmental major programs ranging from the humanities (e.g., art, comparative literature, English, foreign languages, etc.) and the social sciences (e.g., anthropology, economics, geography, psychology, etc.), to the biological sciences (e.g., integrative biology, molecular and cell biology) and the physical sciences (e.g., geology, mathematics, statistics, etc.). In addition, there are group majors in American studies, Asian studies, Celtic studies, cognitive science, development studies, Dutch studies, environmental sciences, ethnic studies, film, Latin American studies, legal studies, mass communications,
Middle Eastern studies, peace and conflict studies, political economy of industrial societies, religious studies, and social welfare. There are also field majors in the physical sciences and interdisciplinary studies. Moreover, students who have completed at least 60 semester units and at least one semester of enrollment at Berkeley, and who have attained a minimum 3.0 Berkeley and overall grade-point average may, with the permission of the dean and support and supervision of a college faculty member and a faculty member who acts as second reader of the individual major thesis, pursue an individual major designed to satisfy special academic goals. Thus, the options available to students outside traditional disciplines are many and varied.

Minor Programs. Minor programs are intended as optional programs that will encourage coherence in the work that students undertake outside their major field(s) of study. Students may complete one or more minor programs, normally in a field both academically and administratively distinct from their major. The college has set the following minimum requirements for completion of a minor program:

1) Course requirements: a minimum of five upper division courses, completed on a letter-graded basis, are required for the minor. At least three of the five upper division courses must be completed at Berkeley.

2) Grade-point average requirements: Students must maintain a minimum overall grade-point average of 2.0 in upper division courses required for the minor program. At present the college offers minor programs in the following departments:

- African American Studies
- Humanities
- Social Science
- Art, History of
- Art, Practice of
- Asian Studies
- Chinese Studies
- Japanese Studies
- Korean Studies
- Southeast Asian Studies
- Astrophysics
- Celtic Studies
- Classics
- Greek
- Latin
- Classical Civilization
- Demography
- Dramatic Art/Center for Theater Arts
- Dramatic Art
- Dramatic Art – Dance
- Dutch Studies
- English
- American Literature
- Literature in English
- Ethnic Studies
- Asian American Studies
- Chicano Studies
- Ethnic Studies
- Native American Studies
- French
- French Civilization
- French Language Studies
- French Literature
- Geography

Physics professor Marvin Cohen holds a model of carbon atoms depicting a structure that through the selective arrangement of carbon atoms will lead to new possibilities in materials.

CAL Quiz
No. 31
What trees on campus attended a famous event before traveling to Berkeley?
(Answer on page 457.)
German
Italian Studies
Mathematics
Music
Near Eastern Studies
   Ancient Egyptian and Near Eastern Civilizations
   Arabic
   Hebrew
   Persian
   Turkish
Peace and Conflict Studies
Philosophy
Physics
Political Economy of Industrial Societies
   European Studies
Rhetoric
Scandinavian
Slavic Languages and Literatures
   Russian Language
   Russian Language, Literature, and Culture
   Russian Literature
   Slavic Language and Literature
South and Southeast Asian Studies
   South Asian Civilization
   South Asian Archaeology
Spanish and Portuguese
   Spanish Language and Literatures
   Luso-Brazilian Language and Literatures
Undergraduate and Interdisciplinary Studies
   Creative Writing
   Lesbian, Gay, Bisexual, and Transgender Studies
   Religious Studies
Women's Studies

Students should consult the department or group in charge of the minor for additional requirements and specific information regarding the minor program in which they are interested. Admission to the minor and certification of completion of the minor are determined by the department or group in charge of the program. When a student completes a minor program, the department or group in charge will notify the Office of the Registrar, so that the completion may be noted on the student's transcript.

Additional minor programs are offered by other schools and colleges on campus. Consult their listings in this catalog for more information.

Division of Undergraduate and Interdisciplinary Studies

The Division of Undergraduate and Interdisciplinary Studies (UGIS) is located in 301 Campbell Hall (642-0108). The mission of the division is to develop and administer innovative and interdisciplinary courses and programs in the College of Letters and Science that do not belong to a single department. At present the division administers the field major in interdisciplinary studies, the individual major, and the group majors in American studies, cognitive science, environmental sciences, mass communications, and religious studies. Minor programs are offered in creative writing: lesbian, gay, bisexual, and transgender studies (LGBT), religious studies, and peace and conflict studies. UGIS also supports the following majors and minors in international and area studies (101 Stephens Hall, 642-4466): Asian studies, development studies, European studies, Latin American studies, Middle Eastern studies, peace and conflict studies, and political economy of industrial societies (PEIS).

In addition to our interdisciplinary majors, UGIS sponsors a wide range of academic programs and services for undergraduates, under the leadership of the dean of undergraduate education at Berkeley. A world-class research university such as ours offers something special to undergraduates who know how to make the most of it, and UGIS is a good starting place for students who seek close intellectual contact with faculty, either in a small seminar or in a research apprenticeship, for students who would like to apply for a national scholarship, etc. Some of the campuswide programs for undergraduates that are administered by UGIS are described below.

The Center for the Teaching and Study of American Cultures (120 Wheeler Hall, 642-2264) administers courses that fulfill the campus American Cultures requirement. These courses address theoretical and analytical issues relevant to understanding race, culture, and ethnicity in American history and society.

The College Writing Programs (216 Dwinelle Annex, 642-5570), designed to help undergraduates establish fluency and control over their reading and writing skills, are also part of the Division of Undergraduate and Interdisciplinary Studies.

The Freshman Seminar Program is also housed in the division. Seminars are created and taught by faculty members from nearly every campus department. The UGIS office distributes descriptions of these special course offerings to freshmen in time for Tele-BEARS registration each semester.

The division also sponsors the Western and world civilization course series (UGIS 44A-44B-44C, and 55A-55B, respectively), and an undergraduate colloquium that offers lower division students an introduc-
tion to the ideas and issues facing different academic disciplines from across the campus (UGIS 79).

The UC Berkeley-Washington Program, also administered by UGIS, allows undergraduates to spend a semester in Washington, D.C., combining course work with internships.

The Office of Undergraduate Research (OUR) seeks to involve undergraduates more deeply in the research life of the University. To this end, OUR coordinates and develops programs and resources that bring undergraduates into the field, laboratories, and archives. This office administers the Undergraduate Research Apprenticeship Program, the Haas Scholars Program, and the Beckman Scholars Program, and maintains a central research opportunities Web site: http://research.berkeley.edu.

The Scholarship Connection coordinates applications for scholarships and awards based on academic achievement and social or political contribution. Campus committees for the Rhodes, Marshall, Truman, and several other distinguished scholarships are housed here. Staff work to identify talented undergraduates and assist them in the application process.

Organizational Units

African American Studies
American Studies
Ancient History and Mediterranean
    - Archaeology
Anthropology
Art
Practice of Art
History of Art
Asian American Studies
Astronomy
Bisotatistics
Buddhist Studies
Celtic Studies
Chemistry
Chicano Studies
Classics
Cognitive Science
College Writing Programs
Comparative Literature
Computer Science
Demography
Development Studies
Dramatic Art/Center for Theater Arts
Dramatic Art
Dramatic Art – Dance
Dutch Studies
East Asian Languages
East European Studies
Economics
Law and Economics
English
Environmental Sciences
Ethnic Studies
Ethnic Studies Graduate Group
Film
Folklore
French
Geography
Geology and Geophysics
German
History
Integrative Biology
Interdisciplinary Studies
Italian Studies
Latin American Studies
Legal Studies
Linguistics
Logic and the Methodology of Science
Mass Communications
Mathematics
Medieval Studies
Middle Eastern Studies
Molecular and Cell Biology
Music
Native American Studies
Near Eastern Studies
Peace and Conflict Studies
Philosophy
Physical Science
Physics
Political Economy of Industrial Societies
Political Science
Population Studies
Psychology
Religious Studies
Rhetoric
Romanic Philology
Scandinavian
Science and Mathematics Education
Slavic Languages and Literatures
Social Welfare
Sociology
South and Southeast Asian Studies
Spanish and Portuguese
Statistics
Undergraduate and Interdisciplinary Studies
Women's Studies

College of Natural Resources

Office of the Dean: 101 Giannini Hall, 642-7171
http://www.cnr.berkeley.edu

Dean:
Gordon C. Rausser, Ph.D.

Office of the Associate Dean—Instruction and Student Affairs, 137 Giannini Hall, 642-0542
http://www.cnr.berkeley.edu/sao/index.htm
Don Dahlsten, Ph.D.

Office of the Associate Dean—Academic Affairs, 101 Giannini Hall, 642-7171
Richard Malkin, Ph.D.

Office of the Associate Dean—Research, 108 Giannini Hall, 642-7171
Sharon Fleming, Ph.D.

CAL Quiz
No. 33

What is the official significance of the saber-toothed tiger statue in the plaza at the southern end of McCone Hall?
(Answer on page 457.)
Teaching and research in the College of Natural Resources (CNR) integrate the natural and social sciences to address ecological problems in urban and rural landscapes, agriculture, rangelands, forests, wetlands, and watersheds. The goals of the college are to increase knowledge and understanding of ecosystems, promote sustainable use of natural resources, and provide the foundations of sustainable and equitable environmental management.

The College of Natural Resources has intellectual roots in two former campus units—the College of Agricultural Sciences and the School of Forestry and Conservation—which were combined in 1974 to provide a broad interdisciplinary approach to natural resource problems. In 1993 the college was reorganized again, paring eight departments to four in order to better integrate natural and social sciences and to focus on undergraduate teaching. Undergraduate and graduate programs are available in four departments: Agricultural and Resource Economics; the newly formed Environmental Science, Policy, and Management (ESPM); Nutritional Sciences; and Plant and Microbial Biology.

- The Department of Agricultural and Resource Economics emphasizes the social science of natural resources, especially aspects of economic and political institutions and cultural values that affect the development, management, and conservation of natural resources.
- The Department of Environmental Science, Policy, and Management coordinates and strengthens CNR’s interdisciplinary approaches to critical environmental problems. Its faculty is drawn from former departments of Conservation and Resource Studies, Entomology, Forestry and Resource Management, Plant Pathology, and Soil Science.
- The Department of Nutritional Science provides basic study of nutrition and food science and a professionally accredited undergraduate program in clinical dietetics.
- The Department of Plant and Microbial Biology has a strong focus on basic plant biology from the molecular to the organismal levels, with a direct connection to plant biotechnology.

Undergraduate Programs

Undergraduate programs in the college fall into three categories. Some are prescribed professional programs designed for students with interests in specific professions, such as forestry and nutrition. Some provide a foundation in sciences that prepares students for graduate and professional programs in biology, health sciences, or economics. Most are integrative programs that emphasize flexible, interdisciplinary approaches and prepare students for employment or graduate study in areas such as land management, law, public policy, medicine, and environmental planning.

A major in environmental sciences is available in both the College of Natural Resources and the College of Letters and Science. The major curriculum emphasizes a broad and comprehensive education in the fundamentals of biology, chemistry, physics, and mathematics, and in social science directly related to environmental problems. The major is concerned with interactions between human activities and biological and physical environments on all scales, from local to global.

The Department of Agricultural and Resource Economics offers an undergraduate major in environmental economics and policy. The core of the program provides a fundamental education in economics and statistics, with a focus in mathematics. In the major, students integrate the rationality of economics with an understanding of the way natural resource systems work. They develop a sense of how the choices people make affect the environment, of the conflict between economic development and environmental quality, and of how the conflict can be resolved. Students are encouraged to use conditions in California as a learning tool.

The Department of Environmental Science, Policy, and Management (ESPM) offers coordinated, interdisciplinary learning that addresses environmental problems. The current majors are conservation and resource studies, forestry, molecular environmental biology, and resource management. Further information can be obtained from the Undergraduate Student Service Office in 260 Mulford Hall.

Conservation and resource studies is designed for students interested in the interaction between issues of sustainable resources, population, technology, economics, cultural values, and societal institutions. The program emphasizes a social science foundation in the lower division years; in their junior and senior years, students create, in conjunction with faculty, and upper division plan which defines their course work for the remainder of their undergraduate study. The program is ideal for highly motivated students who have strong ideas about where they want to make an impact.

The current major in forestry is designed to prepare students to manage forests and wildlands to produce wood, water, forage, wildlife, recreational opportunities, and other environmental benefits. Graduates are employed by various international, federal, state, local, and private agencies and organizations.

The molecular environmental biology (MEB) major is designed to expose students to the organization and function of biological organisms at the molecular, cellular, organismal, and ecological levels. The breadth of this vertically integrated program provides a valuable perspective for students interested in how organisms function in their environment. This major is appropriate for pre-med and pre-vet students, students interested in graduate education in a biological area, as well as students interested in general biology. Students may choose among four areas of emphasis: Ecology; Environment and Human Health; Microbiology; and Host-Parasite Relationships and Pest Management.
The major in resource management incorporates sociology, diverse other social sciences, and public policy into a strong science curriculum. The interdisciplinary major trains students to make decisions about the management of ecosystems in the face of changing demographics and societal values. Undergraduates are required to take a summer field program in which they spend eight weeks in CNR's "summer camp" analyzing an ecosystem and its historic and current use, making decisions about its management, and creating a workable management plan.

The Department of Nutritional Sciences offers one undergraduate major, nutritional sciences, with three tracks: Physiology and Metabolism, Dietetics, and Toxicology. Track I, Physiology and Metabolism, combines a strong foundation in natural sciences with advanced course work in nutrition, the biochemical and physiological study of nutrient utilization; and food science, the study of properties and processing of food materials. Under Track II, Dietetics, students at the junior and senior levels take course work emphasizing nutrition and the application of this knowledge through dietetic practice. Track III, Toxicology, provides students with a strong background in the biological and chemical sciences with advanced course work focusing on nutrition and toxicology, the biochemical and physiological study of the adverse effects of nutrients in the diet. Professional career opportunities are described under the Nutritional Sciences section of this catalog.

The Department of Plant and Microbial Biology offers a major in genetics and plant biology that combines traditional plant sciences—physiology, biology, and anatomy—with newer biological disciplines such as genetics, molecular biology, and biochemistry. The major is split into two tracks: Plant Biology and Plant Genetics. The Plant Biology track concentrates on the spectrum of cellular and organismal aspects of plants; Plant Genetics focuses on cellular development, molecular genetics, and agricultural biotechnology. Both recognize the role plants play in the global environment.

Major Requirements. Detailed course requirements for each major, along with college requirements for the B.S. degree, are listed in the Announcement of the College of Natural Resources, available from the Office of Instruction and Student Affairs, University of California, Berkeley; 137 Giannini Hall #3100, Berkeley, CA 94720-3100. For further information, call the Office of Instruction and Student Affairs at 642-0542 or visit the Web site at http://www.cnr.berkeley.edu/sao/index.htm.

Minor Programs. The college offers minors in conservation and resource studies, forestry, environmental economics and policy, and nutritional sciences. For information, please contact the appropriate departmental office or the Office of Instruction and Student Affairs.

Undergraduate Advisers. Undergraduate advisers in each major serve as a crucial link between students and the college. Advisers are available throughout the year to discuss major requirements and to assist students in planning a program best suited to their individual needs and interests. All students are required to see their advisers—at least once a semester in connection with each registration period—for advice in planning their academic programs.
Doctors of optometry are independent primary health care providers who specialize in the examination, diagnosis, treatment and management of diseases and disorders of the visual system, the eye and associated structures as well as the diagnosis of related systemic conditions.”

The official definition of an optometrist, adopted by the American Optometric Association Board of Trustees.

Tele-BEARS Registration. Students must have an adviser’s approval before filing their Tele-BEARS registration lists. The minimum course load for students is 13 units. Exceptions require either (1) an employment verification form on file, (2) a part-time status form on file, or (3) authorization from the Dean’s Office. For further information, contact the Dean’s Office, Office of Instruction and Student Affairs, 642-0542.

Graduate Programs
Academic and professional graduate degree programs are available in agricultural and environmental chemistry; agricultural and resource economics; comparative biochemistry; environmental science, policy, and management; forestry; nutrition; plant and microbial biology; and range management. In addition, an ad hoc interdisciplinary doctoral program is offered.

Inquiries regarding details of the various graduate programs may be directed to the appropriate graduate adviser in the chosen field.

Organizational Units
Agricultural and Resource Economics
Department Office: 207 Giannini Hall, 642-3345
Chair: David Zilberman, Ph.D.

Environmental Science, Policy, and Management
Department Office: 145 Giannini Hall, 643-8074
Chair: James Bartolome, Ph.D.

Environmental Sciences
Department Office: 137 Giannini Hall, 643-0542
Director: Brian Wright, Ph.D.

Nutritional Sciences
Department Office: 119 Morgan Hall, 642-6490
Chair: Leonard Bjeldanes, Ph.D.

Plant and Microbial Biology
Department Office: 111 Koshland Hall, 642-5167
Chair: Bob Buchanan, Ph.D.

Graduate Programs
Ad Hoc Interdisciplinary Doctoral Program
(administered by the dean of the Graduate Division)

Agricultural and Environmental Chemistry
111 E. Koshland Hall, 642-5167
Chair: Isao Kubo, Ph.D.

Comparative Biochemistry
127 Morgan Hall, 642-2879
Chair: Nancy Amy, Ph.D.

Microbiology
111 E. Koshland Hall, 642-5167
Chair: Bob Buchanan, Ph.D.

Nutrition
127 Morgan Hall, 642-2879
Chair: Leonard Bjeldanes, Ph.D.

Plant Biology
111 E. Koshland Hall, 642-5167
Chair: Bob Buchanan, Ph.D.

Range Management
133 Mulford Hall, 642-6410
Chair: James Bartolome, Ph.D.

Interdisciplinary Graduate Group
Wood Science and Technology
Building 478, Richmond Field Station, 231-9452
Chair: Frank Beall, Ph.D.

School of Optometry

Office of the Dean (642-3414) and Admissions (642-9537): 351 Minor Hall
http://spectacle.berkeley.edu
Dean:
Anthony J. Adams, O.D., Ph.D.

Associate Dean for Academic Affairs:
Gunilla Haegerström-Portnoy, O.D., Ph.D.

Associate Dean for Clinical Affairs:
Edward J. Revelli, O.D.

Associate Dean for Student Affairs:
Michael G. Harris, O.D., J.D., M.S.

Director of Residency Programs:
Deborah Orel-Bixler, O.D., Ph.D.

The School of Optometry provides professional training in the art and science of vision care. Drawing upon the principles of anatomy, optics, physiology, and psychology, the four-year professional program leads to the degree of Doctor of Optometry, which qualifies one to take state board examinations.

Doctors of Optometry are health care professionals. Optometry is a primary health care profession that encompasses the prevention and remediation of disorders of the vision system through examination, diagnosis, treatment, and/or management of visual efficiency, eye health, and related systemic manifestations.

Optometry graduates are able to diagnose patients with ocular disease or systemic diseases with ocular manifestations. Recent changes in optometry laws across the United States have expanded the scope of optometric practice, giving practitioners responsibility for nonsurgical pharmaceutical treatment of eye disorders and diseases.

Doctors of Optometry are educated in the sciences of anatomy, zoology, chemistry, physics, mathematics, neurology, bacteriology, microbiology, disease processes and detection, pharmacology, behavioral science, social science, public health, and many other related fields. The school provides four years of comprehensive training in vision care aimed at training primary eye care practitioners. The first year emphasizes advanced study of sciences which form the background of optometry, such as ocular anatomy, medical physiology and biochemistry, ocular pathology, physiology, microbiology and virology, neuroanatomy, the psychology of vision, vision science, geometric optics, ophthalmic...
Optics, pharmacology, and theoretical and practical optics. The second and third years are devoted to the science of optometry and the acquisition of skills in examination procedures. Although clinic participation is involved in all four years, active responsibility for patient care begins in the summer preceding the third year. The fourth year is devoted to primary care practice of optometry and the detailed study of specialized areas, including contact lenses, binocular and infant vision, vision functions, ocular health, aniseikonia, vision of the elderly, and low vision.

Optometry offers a wide variety of interesting, challenging, and rewarding careers in private practice, in hospitals and other health organizations, and in public service. The education acquired at the School of Optometry provides today's Doctors of Optometry with the knowledge and skill necessary to meet the challenges of providing vision care.

For further information about the school's programs, please consult the Announcement of the School of Optometry, available from the Admissions Office, School of Optometry, University of California, Berkeley, 390 Minor Hall #2020, Berkeley, CA 94720-2020, or send e-mail to optres@spectacle.berkeley.edu.

Optometric Residency Program

A one-year Optometric Residency program is available for graduate optometrists who want to expand their skills in one or more clinical areas and/or seek training in specialty areas. The areas of study include binocular/pediatric vision, primary care optometry, low vision, contact lenses, and ocular health. Special combined or individual programs may be considered.

For further information about the Optometric Residency program, please contact the Residency Director, Minor Hall #2020, Berkeley, CA 94720-2020 or send e-mail to optres@spectacle.berkeley.edu.

Vision Science

The graduate program in vision science leads to the M.S. and Ph.D. degrees. The program is administered by the Group in Vision Science, representing faculty from the School of Optometry and the Departments of Psychology, Computer Science, and Bioengineering, among others. The faculty is distinguished in their accomplishments and diverse in their areas of expertise.

The graduate program provides training in a wide variety of topics pertaining to biological vision. These include the optics of the eye, molecular and cell biology of the eye, anatomy and neurophysiology of the eye and visual pathways. The graduate program is designed to prepare students for a career in teaching and research in the science of vision. Research facilities available to graduate students in vision science are unexcelled anywhere in the world.

Students interested in this graduate program should become familiar with the regulations of the Graduate Division and should contact the graduate student affairs officer or the chair of the Group in Vision Science as early as possible. Admission to this program requires a bachelor's degree in a relevant discipline (such as biology, computer science, engineering, or psychology) or a doctoral degree in medicine or optometry.

For further details about the requirements for the vision science programs, please contact the Graduate Student Affairs Officer, Group in Vision Science, University of California, Berkeley, 488A Minor Hall #2020, Berkeley, CA 94720-2020, or send e-mail to visci@spectacle.berkeley.edu.

School of Public Health

Office of the Dean and Student Services and Admissions:
19 Earl Warren Hall, 642-6531
http://socrates.berkeley.edu/~sph

Dean:
Edward Penhoet, Ph.D.

Associate Deans:
C. Jean Morton, M.S.W., M.P.H.
William Satariano, Ph.D.
Richard Stephens, Ph.D.

The mission of the School of Public Health (SPH) is to develop and apply knowledge from multiple disciplines for the promotion and protection of the health of the human population, giving due consideration to principles of human rights and cultural perspectives that abound in our multicultural country and world. The school carries out this mission with programs of teaching, research, and service. These programs, grounded in an understanding of the theory and mechanisms of the basic sciences, are integrated through a focus on communities that reach from the neighborhoods surrounding the campus to international settings.

Promotion and protection of the health of human populations require a scientific understanding of epidemiology, biostatistics, and the biological, physical, environmental, social, behavioral, informational, and administrative and policy sciences. In the School of Public Health, these and other disciplines focus on health problems of particular populations, selected diseases or disabilities, and issues associated with the application of resources to public health systems. SPH faculty, support resources, and curricula focus on both the fundamental disciplines and their applications to particular problems. Within the University and wider community, faculty strive to advance the understanding of the fundamental disciplines, apply them to problems faced by human populations, and provide the interdisciplinary context in which future public health practitioners and scholars may develop needed skills and capacities.

The program of study leading to the professional M.P.H. degree is based on a series of foundation courses. In addition, M.P.H. students concentrate in one of the following areas: biostatistics, environmental health

CAL Quiz
No. 34

What is the white stone that is used on so many of the older campus buildings, including Doe Library and Sather Gate?

(Answer on page 458.)
Conflict within many countries that has led to millions of fatalities. As a consequence, the need for well-trained policy analysts and managers remains very strong.

The Goldman School of Public Policy prepares students to contribute significantly to public policy as analysts (in the public, nongovernment, and private sectors), managers, and advocates. The strong first-year core curriculum is enhanced by the diversity offered in the second year. The school’s program provides students with the benefits of and access to the resources of the entire Berkeley campus. Second-year students can take their elective courses from the full array of campus offerings.

Undergraduate Courses

The undergraduate courses in public policy deal with the substance of public policy, how it is made, how its effects can be gauged, and what the purposes of policy should be. The courses consider both the policy process and particular policy issues. By examining different policy problems in their political and social contexts, students gain a greater sensitivity to the forces which shape and carry out public policies and to the impact of social, political, economic, and legal power.

Courses are designed for students in diverse disciplines and professional schools. There are no prerequisites for enrollment in the courses unless specifically noted otherwise in the course descriptions. The training provided by the courses is useful to those interested in combining the substantive perspectives of the social sciences with the immediacy of contemporary problems; to those considering professional study; and to the informed and politically aware citizen.

Minor Program. The undergraduate minor in public policy introduces students from other departments and colleges to the field and practice of policy analysis. The minimum requirements are five courses in public policy, at least three of which must be upper division. All classes must be taken at the School of Public Policy. PP 101 is required of all students in the minor. Students must achieve at least a C average (2.0) in the five courses. When students complete the minor, the school notifies the Office of the Registrar. Completion of the minor will be noted on the students’ transcripts of Berkeley work.

Graduate Courses

Through an examination of domestic and some international policy areas, graduate courses enable students to conduct systematic work in the design and assessment of public policies. Among the skills emphasized are those facilitating the application of political, organizational, economic, quantitative, and legal analysis to the full range of the policy process—from policy initiation through policy adoption, implementation, and evaluation. By developing these skills, students from the professional schools and academic disciplines should find their strengthened analytical capabilities of direct use when applied to their own field of concentration.
Coordinated Degree Programs with Other Berkeley Colleges and Schools

The M.P.P. may be earned in combination with an advanced degree from the following Berkeley schools and colleges under a coordinated program:

- M.P.P./J.D. with the Boalt School of Law
- M.P.P./M.P.H. in health policy and administration with the School of Public Health
- M.P.P./M.A. in international and area studies with the College of Letters and Science
- M.P.P./M.S. with the College of Engineering

Ph.D. in Public Policy

The Ph.D. program prepares students for careers in advanced policy research in academic institutions, research institutes, and government agencies. The Ph.D. program is oriented toward the generation of new knowledge, theories, and methodologies in public policy analysis. The program is small and admission is highly selective.

Further Information

Brochures and information on admissions procedures and student financial assistance are available from the Goldman School of Public Policy, University of California, Berkeley, 2607 Hearst Avenue #7320, Berkeley, CA 94720-7320.

Master's Degree in Public Policy

The professional degree, the Master of Public Policy, is designed to provide students with the knowledge, analytical skills, and sensitivities needed to conduct public policy studies. Students from diverse disciplinary backgrounds are accepted into this program. Those completing the master's program are qualified to take on a variety of significant policy roles in the U.S. and abroad. They work within the public sector at all government levels, in nonprofit organizations, and in private consulting firms. Examples of jobs include staff analyst in a regulatory agency or planning office, special assistant to a senior executive, legislative aide, project officer or program manager in an operating agency or staff member in a nonprofit management consulting or policy research firm.

The two-year master's degree program consists of a required first-year core curriculum, a summer internship, and a second year devoted mostly to elective courses and a policy study of the student's choice. The core curriculum includes courses in political and organizational analysis, economic analysis, quantitative techniques, legal analysis, and a workshop where students perform policy studies on selected issues.

School of Social Welfare

Office: 120 Haviland Hall, 642-4341
http://hav54.socwel.berkeley.edu
Dean:
James Midgley, Ph.D.

Graduate Program

The School of Social Welfare is a graduate professional school dedicated to educating social workers and social welfare scholars for a range of leadership, research, teaching, and advanced practice roles in the profession. Our educational emphasis is on preparing students for professional responsibility in the field of social welfare and the institutional systems that comprise it, particularly public social services and publicly supported voluntary social services.

While students are prepared to practice at specific intervention levels and with specialized skills, all will be thoroughly grounded in a knowledge of social and psychological issues, social welfare policies, and social service organizations. Master's-level professional education at Berkeley is characterized by a spirit of critical inquiry and an emphasis on the use of tested knowledge and theory in developing and applying intervention methods. Classroom preparation focuses on knowl-
Moses Hall and Stephens Hall face each other across a courtyard and have similar architectural styles, but what else did they once have in common? (Answer on page 458.)

edge of individual and family development, ethnocultural factors, policies and institutional systems governing services, and research strategies for program development and education.

One aspect of Berkeley's mission is to educate students from groups that historically have been underrepresented in university education because of age, socioeconomic background, disability, geography, or discrimination. Students and faculty are committed to addressing demographic changes in the state of California and the nation in order to respond to the values and goals of the social work profession. These include recognizing the worth, uniqueness, and dignity of all individuals, fostering and strengthening the family and other systems of support, respecting cultural diversity, and promoting equitable opportunity and social and economic welfare for all.

The school offers the following programs:
• A program of study leading to the Ph.D. in Social Welfare, which prepares students for careers in teaching, research, policy development and analysis, and administration in the field of social welfare and the profession of social work. It is open to applicants who hold a master's degree in social work or social welfare or have comparable preparation in a closely related field and who show evidence of intellectual and other qualifications essential to successful doctoral study.

Also offered is a combined program of master's-doctoral studies which begins in the first graduate year, leads to both Master of Social Welfare and Ph.D. in Social Welfare degrees, and prepares for the same careers. Applicants must show evidence of ability to complete doctoral study successfully and must have undergraduate preparation as outlined below.
• A two-year program of studies for the Master of Social Welfare degree in preparation for advanced practice in social work. Classroom and field courses are designed to teach professionals to use tested knowledge and skill and research methods in their practice. Applicants for admission must have strong academic preparation in the liberal arts and sciences, including course work in the social and behavioral sciences. In addition, introductory course work in social welfare and social work, research methods, and quantitative reasoning is given special attention. Knowledge of the social welfare field and professional commitment to social work are also evaluated. Such knowledge and commitment are usually demonstrated in part by successful paid employment related to social welfare. Paid experience, however, is not a requirement for admission; those who demonstrate sufficient knowledge and commitment through voluntary experience may also qualify.
The school sponsors several special programs: the M.S.W./M.P.H. dual degree program, the social welfare/law concurrent degree program, the international and area studies/social welfare concurrent degree program, the pupil personnel services credential program, the Title IV-E Child Welfare Training Program, and the American Indian Graduate Program.

Applications for admission to any of these programs should be submitted as early as possible beginning in September and no later than January 5 for admission in the following academic year. The deadline for fellowships is December 15. Admission to the school is contingent on admission to graduate standing; for details see the booklet Admission to Graduate Study.

The M.S.W. program is accredited by the Council on Social Work Education.

For further information, consult the Announcement of the School of Social Welfare, available from the School Office, 120 Haviland Hall or visit our Web site at http://hav54.socwel.berkeley.edu.

Undergraduate Group Major, Letters and Science

The Department of Social Welfare administers an undergraduate group major in social welfare in the College of Letters and Science leading to the degree of Bachelor of Arts. For major requirements, see the Social Welfare section of this catalog.

Interdisciplinary Programs

Interdisciplinary Education

In some sense, all knowledge is interdisciplinary. Ideas, approaches, and problems do not cluster themselves “naturally” into disciplines. The organization of knowledge into specialized academic departments is a result of the complicated historical development of the modern university. Therefore, students will find that topics and methodologies are often shared by many disciplines and departments.

When we refer to interdisciplinary education we generally mean one of four approaches:
1. the attempt to unify and synthesize ideas, as in a course on Topics in Western Civilization;
2. the attempt to broaden traditional disciplines, as in the development of subfields such as political economy or social psychology;
3. the study of new fields that are emerging outside departmental boundaries, such as cognitive science, bio-engineering, and mass communications;
4. the attempt to solve problems or address specific issues by bringing together work from a number of disciplines and fields.

Students at Berkeley can pursue an interdisciplinary education formally by deciding to major in one of the interdisciplinary group or field majors, or informally by including special interdisciplinary courses in their curriculum or clustering their elective courses with an interdisciplinary focus.

There are rich and varied opportunities for interdisciplinary study at Berkeley. Many colleges and schools have their own interdisciplinary degree programs at both the undergraduate and graduate levels. See Interdisciplinary Graduate Groups in the index. Some offer, or collaborate in offering, special interdisciplinary courses.

The Division of Undergraduate and Interdisciplinary Studies administers some of the largest interdisciplinary programs serving undergraduates. All of its major programs cut across departmental divisions; many cut across college divisions as well. The field major in interdisciplinary studies allows students to develop their own areas of specialization under faculty supervision. Group majors in UGIS allow undergraduates to earn degrees in American studies, cognitive science, environmental sciences, mass communications, and religious studies. Interdisciplinary minor programs are available in creative writing; lesbian, gay, bisexual, and transgender studies (LGBT); and religious studies. The division also sponsors interdisciplinary courses of general interest, such as the courses on Western Civilization and World Civilization, and the Hewitt Foundation courses in general education.

Students should consult the Division of Undergraduate and Interdisciplinary Studies (301 Campbell Hall, 642-0108) for more information.

Special Studies: There are several innovative and interdisciplinary programs of study not within the colleges and schools. Special studies courses provide credits directly applicable to a University degree and are established through interrelationships among colleges, schools, and departments, and, in certain cases, in conjunction with community groups, other UC campuses, and other universities. The following are designated as Special Studies programs (see individual listings for details): Energy and Resources Group; International Education; and the Military Officers’ Education Program (ROTC), which includes Military Affairs courses and programs in Aerospace Studies (Air Force ROTC), Military Science (Army ROTC), and Naval Science (Navy ROTC).

Clustering Electives with an Interdisciplinary Focus

Students may organize their interests in interdisciplinary clusters by choosing elective courses from a number of departments in Letters and Science and in professional schools and colleges. For example, a student interested in literature will find courses in all the foreign language departments, in Ethnic Studies, in Rhetoric, in history courses, in social theory courses, etc., as well as in the Departments of English and Comparative Literature. Economic issues are
**Environmental Studies at Berkeley**

### Basic Environmental Science

<table>
<thead>
<tr>
<th>Degree Program or Emphasis</th>
<th>Department/Unit</th>
<th>Level*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Environmental Biology</td>
<td>College of Natural Resources</td>
<td>UG</td>
</tr>
<tr>
<td>Environmental Science, Policy, and Management</td>
<td>Environmental Science, Policy, and Management</td>
<td>UG, G</td>
</tr>
<tr>
<td>Geography</td>
<td>Geography</td>
<td>UG, G</td>
</tr>
<tr>
<td>Earth Science</td>
<td>Geology and Geophysics</td>
<td>UG</td>
</tr>
<tr>
<td>Integrative Biology—Environmental Biology</td>
<td>Integrative Biology</td>
<td>UG, G</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>Interdepartmental Graduate Groups</td>
<td>G</td>
</tr>
<tr>
<td>Agriculture and Environmental Chemistry</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Nutrition (nutrition and metabolism)</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Nutrition and Food Science</td>
<td>Nutritional Sciences</td>
<td>UG</td>
</tr>
<tr>
<td>Nutrition</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Genetics and Plant Biology</td>
<td>Plant and Microbial Biology</td>
<td>UG</td>
</tr>
<tr>
<td>Plant Biology</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Environmental Sciences</td>
<td>Undergraduate and Interdisciplinary Studies and College of Natural Resources</td>
<td>UG</td>
</tr>
</tbody>
</table>

### Applied Science and Environmental Engineering

<table>
<thead>
<tr>
<th>Degree Program or Emphasis</th>
<th>Department/Unit</th>
<th>Level*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Engineering</td>
<td>Civil and Environmental Engineering</td>
<td>UG, G</td>
</tr>
<tr>
<td>Geotechnical Engineering</td>
<td></td>
<td>UG, G</td>
</tr>
<tr>
<td>Environmental Engineering Science</td>
<td>Engineering Science</td>
<td>UG</td>
</tr>
<tr>
<td>Environmental Technology</td>
<td>Chemical Engineering</td>
<td>UG</td>
</tr>
<tr>
<td>Earth Resources Engineering</td>
<td>Materials Science and Mineral Engineering</td>
<td>UG</td>
</tr>
<tr>
<td>Engineering Geoscience</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Environmental Engineering</td>
<td>Mechanical Engineering</td>
<td>UG, G</td>
</tr>
<tr>
<td>Nutrition and Clinical Dietetics</td>
<td>Nutritional Sciences</td>
<td>UG</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>School of Public Health</td>
<td>G</td>
</tr>
<tr>
<td>Biostatistics</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Environmental Health Sciences</td>
<td></td>
<td>G</td>
</tr>
</tbody>
</table>

### Environmental Management, Planning, Policy and Design

<table>
<thead>
<tr>
<th>Degree Program or Emphasis</th>
<th>Department/Unit</th>
<th>Level*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Resource Economics</td>
<td>Agriculture and Resource Economics</td>
<td>G</td>
</tr>
<tr>
<td>Environmental Economics and Policy</td>
<td></td>
<td>UG</td>
</tr>
<tr>
<td>Architecture (specific courses)</td>
<td>Architecture</td>
<td>UG, G</td>
</tr>
<tr>
<td>City and Regional Planning (specific courses)</td>
<td>City and Regional Planning</td>
<td>G</td>
</tr>
<tr>
<td>Landscape Architecture</td>
<td>Landscape Architecture and Environmental Planning</td>
<td>UG, G</td>
</tr>
<tr>
<td>Environmental Planning</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Urban Design (concurrent program)</td>
<td>City and Regional Planning and</td>
<td>G</td>
</tr>
<tr>
<td>Conservation and Resource Studies</td>
<td>Landscape Architecture and Environmental Planning</td>
<td>G</td>
</tr>
<tr>
<td>Resource Management (wildlife, soils and watersheds, grasslands and woodlands, and natural resources)</td>
<td>Environmental Science, Policy, and Management</td>
<td>UG</td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td>UG</td>
</tr>
<tr>
<td>Range Science</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Environmental Science, Policy, and Management</td>
<td>Interdepartmental Graduate Groups</td>
<td>G</td>
</tr>
<tr>
<td>Range Management</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Political Economy of Industrial Societies (group major)</td>
<td>International and Area Studies</td>
<td>UG</td>
</tr>
<tr>
<td>Law (specific courses)</td>
<td>Law</td>
<td>G</td>
</tr>
</tbody>
</table>

### Integrated Science, Technology, and Policy

<table>
<thead>
<tr>
<th>Degree Program or Emphasis</th>
<th>Department/Unit</th>
<th>Level*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy and Resources Group</td>
<td>Interdepartmental Graduate Groups</td>
<td>G</td>
</tr>
</tbody>
</table>

*In the column below, UG refers to undergraduate and G refers to graduate.*
addressed in courses offered by many Letters and Science departments including Political Science, Sociology, African American Studies, History, Geography, etc., and in courses offered by professional schools and colleges (Business, Public Policy, City Planning, Natural Resources) as well as in the Department of Economics. Students interested in religion will find courses in South and Southeast Asian Studies, History, Middle Eastern Studies, etc., as well as in Religious Studies. In addition, a number of departments offer cross-listed courses which use interdisciplinary methods. These are listed in departmental offerings. (You may consult your college adviser for help in planning your course of study to include an interdisciplinary focus.)

**Environmental Studies at Berkeley**

Environmental studies at Berkeley include courses, curricula, research, and public service that cover aspects of sciences and arts, engineering and management, law and policy, planning and design. Several degree-granting programs specifically emphasize aspects of the environment, and hundreds of courses in other departments apply the principles of those disciplines to issues in the environment. By judiciously selecting courses, students can develop curricula that bridge the boundaries among departments and take advantage of the diverse resources from several programs.

The chart on page 112 identifies the principal degree-granting environmental curricula described in more detail under corresponding headings in this catalog. Further detail is available in the announcements of individual colleges and schools.

**Individual Majors**

Students whose interests lie outside or between the degree programs listed in the chart on page 112 should consider designing individual majors that satisfy their academic goals. For example, students interested in the ways that societal principles and cultures affect the environment might consider individual majors in such departments as Anthropology, History, Legal Studies, Peace and Conflict Studies, Psychology, and Sociology.

**Departments with Related Courses**

In addition to the degree programs of emphases identified on the chart, each of the following headings in the General Catalog offers several relevant courses.

- Anthropology
- Business Administration
- Chemistry
- City and Regional Planning
- Demography
- Development Studies
- Economics
- Engineering
- Environmental Design
- Interdepartmental Studies
- Molecular and Cell Biology
- Nuclear Engineering
- Physics
- Political Science
- Public Policy
- Social Welfare
- Urban Design

**see also University Extension**

For a complete listing of courses that focus on environmental matters, see *Enviro-Studies. A Guide to Environmental Studies at Berkeley*, or *The Student's Guide to Environmental Studies: What the Others Don't Tell You About Undergraduate Majors at Cal*. Both are available at bookstores, through academic advisers, and on the Environmental Council homepage at http://www.CNR.berkeley.edu/eeec/. A graduate students' guide to environmental studies at Berkeley was being prepared when this catalog went to press; check the Web site periodically for up-to-date information about its progress.

**International and Area Studies**

Berkeley's international teaching programs and centers for research and outreach are part of our rich multicultural environment. International issues are the focus of six undergraduate and three graduate interdisciplinary majors offered by the International and Area Studies Teaching Programs. Through the undergraduate group majors in Asian studies, development studies, Latin American studies, Middle Eastern studies, peace and conflict studies, and political economy of industrial societies, you can focus your education on a variety of geographical or issue-oriented areas and topics. You can also enjoy the advantages of close relationships with many of the centers of research affiliated with International and Area Studies. These centers sponsor concerts, lectures, special events, conferences, and seminars and assist the teaching programs in bringing internationally renowned scholars and faculty to teach courses in the IAS Teaching Programs as well as departments in the humanities, sciences, and social sciences. In addition, the teaching programs collaborate with the various centers in promoting student internships and research opportunities. For more information about International and Area Studies at Berkeley, contact the IAS Teaching Programs Office, 101 Stephens Hall, 642-4466, iastp@zephyr.berkeley.edu, or one of the research centers listed to the right.

**International and Area Studies Programs**

- Center for African Studies: 642-8338
- Canadian Studies Program: 642-0531
- Institute of East Asian Studies: 642-2809
- Center for Chinese Studies: 643-6321
- Center for Japanese Studies: 642-3156
- Center for Korean Studies: 642-5618
- Center for German and European Studies: 643-5777
- Institute of International Studies: 642-2472
- Berkeley Roundtable on the International Economy (BRIE): 642-3067
- Center for International and Development Economic Research (CIDER): 642-2474
- Program in Population Research: 642-9800
- Center for Latin American Studies: 642-2088
- Center for Middle Eastern Studies: 642-8208
- Center for Slavic and East European Studies: 642-3230
- Center for South Asia Studies: 642-3608
- Center for Southeast Asia Studies: 642-3609
- Center for Western European Studies: 642-9314
- Catalanian Studies Program: 643-7856
- Finnish Studies Program: 643-0868
- French Cultural Studies Program: 643-5799
- Iberian Studies Program: 642-5326
- Italian Research and Study Program: 643-1994
- Portuguese Studies Program: 643-0980
- Berkeley Program in Soviet and Post Soviet Studies: 643-6737
- Office for Resources in International and Area Studies: 643-0868