College of Letters & Science
Division of Mathematical, Life and Physical Sciences

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CPC Meeting
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MLPS At A Glance

- 13 Academic Units
- 244.72 Permanent Allocated Faculty FTE
- 6359 Undergraduate Majors
- 700 Graduate Students
- 293 Research Support Staff (Postdocs, Prof. Researchers, Research Assts.)
- 123.51 Academic Support Staff FTE
- ~$76M Sponsored Research Proposals Awarded by Home Dept
- 6 Departments Ranked in Top 20, 3 in Top 10 (by percentile)*

Source: Campus Planning Data Book; 2010-2011
* NRC Rankings 2010
Overview:

- Even with the past building boom of the last decade, the Division still suffers from a shortage of proper Instruction and Research (I & R) space housing several MLPS Departments; most notably the Department of Physics.

- Departments within MCDB, EEMB, Earth Sciences, Chemistry, and Physics, are conducting leading-edge research within antiquated buildings and research laboratories built in the 1960’s.

- The poor condition of space is most problematic within BIO II, Broida Hall, Chemistry/Biochemistry Building, Marine Biotech building, and Webb Hall.
# Space and Capital Needs

## UCSD Space Projection Model-Current and 2020-21

<table>
<thead>
<tr>
<th>Department</th>
<th>Current Allocation (10-11 ASF)</th>
<th>Calculated Space per UCSD Model</th>
<th>Current Unmet Need Per Dept.</th>
<th>2020-21 Projected Space Per UCSD Model</th>
<th>2020-21 Unmet Need per Dept.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry &amp; Biochemistry</td>
<td>120,030</td>
<td>97,835</td>
<td>22,195</td>
<td>116,192</td>
<td>3,838</td>
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<td>EEMB</td>
<td>99,626</td>
<td>70,020</td>
<td>29,606</td>
<td>82,814</td>
<td>16,812</td>
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<td>Environmental Studies</td>
<td>5,888</td>
<td>15,630</td>
<td>-9,742</td>
<td>18,252</td>
<td>-12,364</td>
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<td>Geography</td>
<td>31,763</td>
<td>42,728</td>
<td>-10,965</td>
<td>50,105</td>
<td>-16,577</td>
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<td>Earth Science</td>
<td>42,766</td>
<td>51,315</td>
<td>-8,549</td>
<td>60,410</td>
<td>-17,644</td>
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<td>Mathematics</td>
<td>11,569</td>
<td>24,585</td>
<td>-13,016</td>
<td>27,972</td>
<td>-16,403</td>
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<tr>
<td>MCDB*</td>
<td>82,124</td>
<td>65,267</td>
<td>16,857</td>
<td>77,091</td>
<td>5,033</td>
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<td>Physics</td>
<td>77,893</td>
<td>111,570</td>
<td>-33,677</td>
<td>132,354</td>
<td>-54,461</td>
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<tr>
<td>Psychological and Brain Sciences</td>
<td>44,828</td>
<td>53,239</td>
<td>-8,411</td>
<td>62,677</td>
<td>-17,849</td>
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<tr>
<td>Speech &amp; Hearing</td>
<td>2,508</td>
<td>3,270</td>
<td>-762</td>
<td>3,780</td>
<td>-1,272</td>
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<tr>
<td>Statistics</td>
<td>4,721</td>
<td>12,238</td>
<td>-7,517</td>
<td>13,789</td>
<td>-9,068</td>
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<td><strong>MLPS</strong></td>
<td><strong>525,481</strong></td>
<td><strong>547,697</strong></td>
<td><strong>-22,216</strong></td>
<td><strong>645,436</strong></td>
<td><strong>-119,955</strong></td>
</tr>
</tbody>
</table>

* CIRM I (1224 asf.), CIRM II (10,330 asf) under control of OR
Space Deficiencies Within MLPS:

- Seven Departments in MLPS have space shortages in excess of 6,000 asf based on current FTE and student enrollment figures.
- The Physics holds the greatest space deficit of 33,677 asf.
- The space deficit will only continue to grow larger if FTE and enrollment figures follow the 2025 LRDP growth plans.
Quality of Space Issues within MLPS:

- Many MLPS science buildings cannot provide the level of precision environments and utilities needed to conduct leading-edge research. Such precision and control is necessary for lab air quality, temperature, humidity, and vibration.

- Departments that are most impacted by poor environmental control are Physics (Broida), MCDB (BIO II), and Chemistry & Biochemistry.
Space and Capital Needs

Quality of Space Issues Creates Financial Burden

- The cost to renovate existing buildings and laboratories to accommodate new faculty hires has been a drain on the Divisions overall budget.
  Examples of recent remodels for new hires and their costs to renovate –
    a) Broida 1219 Optics Laboratory
    b) PSB N Organic Chemistry Lab Renovation
    c) Broida 3410 Optics Laboratory
    d) Marth/LSB Lab Remodel

  Faculty retentions almost always contain a space component tied to a renovation.
  Recent examples -
    a) Woodhouse Instrument Lab
    b) PSB-N Office Suite Renovation
    c) Chem/Biochem Building Lab and Office Renovation

Cost/Space statistics for recent remodels:
- Total space renovated = 11,063 asf
- Total project costs = $ 4.1 M ($373/sf)
Space and Capital Needs

Capital Priority List for New Buildings & Renewals for MLPS:

1. (a) New Physics/Engineering Building (note: joint-project between MLPS and COE) ~ 70,000 asf
   (b) BIO II Renewal
2. Phelps Hall Renewal (Geography)
3. Ellison Hall Renewal (Math/Stat’s)
4. Webb Hall Renewal (Earth Science)
5. New Mathematical Sciences Building
6. Chemistry/Biochemistry Building Renewal – New Consideration
Space and Capital Needs

Example - BIO II 1st Floor Seawater Laboratory
Space and Capital Needs

Example – Broida Hall 1st Floor Lab Space
Space and Capital Needs

Example – Recently Completed Optics Lab in Broida Hall
Space and Capital Needs

Example – Inorganic Lab Space (Chem/Bio Chem Bldg)
Space and Capital Needs

Recent MLPS Space Gains and Awards:

- Department of Geography received release space in early 2010 to address their critical space shortage.
- Campus received NSF Award (ARRA) of $1.7 M to build new research greenhouses. Construction to start soon.
- Construction completed on 10,300 asf in BIO II for stem cell research.
Space and Capital Needs

NSF Greenhouse Replacement Project -

Legend:
- Greenhouse
- Communications
- High Voltage Electrical Line
- Natural Gas Line
- Sanitary Sewer Line
- Storm Drain Line
- Potable Water Line
- Fire Water Line
- Chilled Water Line
- Resinlined Water Line
Space and Capital Needs

Recently Completed Stem Cell Laboratory – BIO II