The MS Biotechnology and MBA dual degree consists of 5 parts: MS Biotechnology Prerequisites or MBA Foundations courses (16 units, as required), MS Biotechnology and MBA Core courses (27 units), Biomedical Engineering Required Courses (12 units) Biotech Electives (6 units), MBA Electives (double counted) (6 units) and Common Core Curriculum (9 units) for a total of 76 minimum units required.

Students must obtain a grade of C or better in order for courses to be applied to the MS in Biotechnology and Masters of Business Administration dual degree. Students must receive a grade of B or better in BINF 500 and BUS 520 to satisfy the Writing Assessment requirement (GWAR) necessary for graduation.

### MS Biotechnology/MBA Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Grade</th>
<th>Term</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MS Biotechnology Prerequisites (16 units, as required)</strong></td>
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<tr>
<td>CHEM 110 Chemistry of Life</td>
<td>4</td>
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<tr>
<td>BIOL 201 Principles of Cell &amp; Molecular Biology</td>
<td>4</td>
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<tr>
<td>BIOL 300 Cell Biology</td>
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<td>Or equivalent upper division course</td>
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<tr>
<td>BIOL 400 Molecular Biology</td>
<td>4</td>
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<td>Or equivalent upper division course</td>
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<tr>
<td><strong>MBA Foundation Requirements (16 units, as required)</strong></td>
<td></td>
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<td>Undergraduate equivalent = 1 semester micro economics + 1 semester macro economics</td>
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<tr>
<td>BUS 500 Economics for Managers</td>
<td>3</td>
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<td>Undergraduate equivalent = upper division statistics or CSUCI's BIOL 203</td>
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<tr>
<td>BUS 502 Quantitative Methods for Decision Making</td>
<td>3</td>
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<td>Undergraduate equivalent = Financial Acctg + Managerial Acctg + Business Finance</td>
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<tr>
<td>BUS 504 Introduction to Accounting and Finance</td>
<td>4</td>
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<td>Undergraduate equivalent = Principles of Management + Principles of Marketing</td>
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<tr>
<td>BUS 506 Principles of Management &amp; Marketing</td>
<td>3</td>
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<td>Waived for Dual Degree majors based on BIOL 503</td>
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<tr>
<td>BUS 508 Business Ethics &amp; Law</td>
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<tr>
<td><strong>MS Biotechnology Core Requirements (9 Units)</strong></td>
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<tr>
<td>BINF 500 DNA and Protein Sequence Analysis</td>
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<td>BIOL 503 Biotechnology Law and Regulation</td>
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<td>BIOL 504 Molecular Cell Biology</td>
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<td>Course</td>
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<tr>
<td><strong>Biomedical Engineering Required Courses (12 units)</strong></td>
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<td>BIOL 601 Seminar in Biotechnology</td>
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<td>BIOL 604 Biotechnology across National Boundaries</td>
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<td>BME 500 Biological Systems and Biomechanics</td>
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<td>BME 501 Fundamentals of Tissue Engineering and Biomaterials</td>
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<tr>
<td>BME 502 Biomedical Instrumentation and Devices</td>
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<tr>
<td><strong>Electives (Minimum 6 units)</strong></td>
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<tr>
<td>BIOL 500 Introduction to Biopharmaceutical Production Operations</td>
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<tr>
<td>BIOL 502 Techniques in Genomics and Proteomics</td>
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<tr>
<td>BIOL 505 Molecular Structure</td>
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<tr>
<td>BIOL 506 Molecular Evolution</td>
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<tr>
<td>BIOL 507 Pharmacogenomics and Pharmacoproteomics</td>
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<tr>
<td>BIOL 508 Advanced Immunology</td>
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<tr>
<td>BIOL 509 Plant Biotechnology</td>
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<td>BIOL 510 Tissue Culture Techniques &amp; Stem Cell Technology</td>
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<td>BIOL 512 Advanced Topics in Regenerative Medicine</td>
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<td>BIOL 513 Cell Culture Facility Management</td>
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<td>BIOL 516 Clinical Trials and Quality Assurance</td>
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<td>BIOL 517 Mechanisms of Development</td>
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<td>BIOL 518 Advanced Topics of Molecular Cell Biology</td>
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<td>BIOL 590 Special Topics</td>
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<td>BIOL 597 Directed Study</td>
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<td>BIOL 603 Biotechnology Internship</td>
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<td>BIOL 605 Biotechnology Across National Boundaries Field Trip</td>
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<td>BINF 511 Computational Genomics</td>
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<tr>
<td>BINF 512 Algorithms for Bioinformatics</td>
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<tr>
<td>BINF 514 Statistical Methods in Computational Biology</td>
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<td>PHYS 464 Medical Instrumentation</td>
<td>3</td>
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<td>MGT 421 Human Resource Management</td>
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</table>

**Common Core Curriculum (9 units)**

<table>
<thead>
<tr>
<th>Course Title</th>
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<tbody>
<tr>
<td>MGT 471 Project Management</td>
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<tr>
<td>BIOL 610: Dual Team Project</td>
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**MBA Core Requirements (18 units)**

<table>
<thead>
<tr>
<th>Course Title</th>
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<tbody>
<tr>
<td>BUS 510 High Performance Management</td>
<td>3</td>
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<tr>
<td>BUS 520 Strategy and Leadership</td>
<td>3</td>
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<tr>
<td>BUS 530 Managing Business Operations</td>
<td>3</td>
</tr>
<tr>
<td>BUS 540 Financial Reporting and Analysis</td>
<td>3</td>
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<tr>
<td>BUS 550 The Contemporary Firm</td>
<td>3</td>
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<tr>
<td>BUS 560 The Entrepreneurial Manager</td>
<td>3</td>
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</table>

**MBA Electives (6 units, double-counted)**

<table>
<thead>
<tr>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BINF 500 DNA &amp; Protein Sequence Analysis</td>
<td></td>
</tr>
<tr>
<td>BIOL 503 Biotechnology Law and Regulation</td>
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</tbody>
</table>

**Advising Notes:**

Reviewed

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Nitika Parmar, PhD  
Program Director, MS Biotechnology

Priscilla Liang, PhD  
Program Director, MBA