UMBC UGC Program Changes & Other Request: Biochemistry & Molecular Biology, B.S. degree: Upper Level Electives

Date Submitted: 9/4/2020  Proposed Effective Date: Fall 2020

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
<th>Dept</th>
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</thead>
<tbody>
<tr>
<td>Dept Chair</td>
<td>Philip Farabaugh</td>
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Specifics (see instructions):

Upper Level Electives
Students must complete two of the following courses with a grade of “D” or higher (6-8 credits).

<table>
<thead>
<tr>
<th>Current Elective Options</th>
<th>Proposed Elective Options</th>
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<tbody>
<tr>
<td>BIOL 411 Bacterial Physiology</td>
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<tr>
<td>BIOL 414 Eukaryotic Molecular Genetics</td>
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<tr>
<td>BIOL 420 Adv Topics: Cell Biology</td>
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<tr>
<td>BIOL 425 Immunology</td>
<td>BIOL 421 Topics in Molecular Genetics</td>
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<tr>
<td>BIOL 426 Appr To Molecular Biol</td>
<td>BIOL 425 Immunology</td>
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<tr>
<td>BIOL 428 Computer Appl Molec Biol</td>
<td>BIOL 426 Appr To Molecular Biol</td>
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<tr>
<td>BIOL 429 Advanced Topics in Mol Biol</td>
<td>BIOL 428 Computer Appl Molec Biol</td>
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<tr>
<td>BIOL 434 Microbial Molec Genetics</td>
<td>BIOL 429 Advanced Topics in Mol Biol</td>
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<tr>
<td>BIOL 443 Adv Topics: Devel Biology</td>
<td>BIOL 434 Microbial Molec Genetics</td>
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<tr>
<td>BIOL 444 Development And Cancer</td>
<td>BIOL 443 Adv Topics: Devel Biology</td>
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<tr>
<td>BIOL 445 Signal Transduction</td>
<td>BIOL 444 Development And Cancer</td>
</tr>
<tr>
<td>BIOL 451 Neurobiology</td>
<td>BIOL 445 Signal Transduction</td>
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<tr>
<td>BIOL 454 Vision Science</td>
<td>BIOL 451 Neurobiology</td>
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<tr>
<td>BIOL 456 Plant Molecular Biology</td>
<td>BIOL 454 Vision Science</td>
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<tr>
<td>BIOL 470 General Virology</td>
<td>BIOL 456 Plant Molecular Biology</td>
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<tr>
<td>BIOL 476 Antibiotics</td>
<td>BIOL 470 General Virology</td>
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<tr>
<td>BIOL 483 Evol: From Genes To Genomes</td>
<td>BIOL 476 Antibiotics</td>
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<tr>
<td>BIOL 486 Genome Science</td>
<td>BIOL 483 Evol: From Genes To Genomes</td>
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<tr>
<td>CHEM 406 Bioinorganic Chemistry</td>
<td>BIOL 486 Genome Science</td>
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<tr>
<td>CHEM 431 Chemistry Of Proteins</td>
<td>CHEM 406 Bioinorganic Chemistry</td>
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<tr>
<td>CHEM 432 Advanced Biochemistry</td>
<td>CHEM 431 Chemistry Of Proteins</td>
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<tr>
<td>CHEM 433 Biochem Of Nucleic Acids</td>
<td>CHEM 432 Advanced Biochemistry</td>
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<tr>
<td>CHEM 435 Cpx Carbohydrates</td>
<td>CHEM 433 Biochem Of Nucleic Acids</td>
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<tr>
<td>CHEM 441 Macromolecules</td>
<td>CHEM 435 Cpx Carbohydrates</td>
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<tr>
<td>CHEM 442 Physical Biochemistry</td>
<td>CHEM 441 Macromolecules</td>
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<tr>
<td>CHEM 443 Spectroscopy/Biopolymers</td>
<td>CHEM 442 Physical Biochemistry</td>
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<tr>
<td>CHEM 444 Molecular Modeling</td>
<td>CHEM 443 Spectroscopy/Biopolymers</td>
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<tr>
<td>CHEM 450 Chem Hetero Compds</td>
<td>CHEM 444 Molecular Modeling</td>
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<td>CHEM 451 Mech Of Organic Reaction</td>
<td>CHEM 450 Chem Hetero Compds</td>
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<tr>
<td>CHEM 453 Org Chem Nucl Acid</td>
<td>CHEM 451 Mech Of Organic Reaction</td>
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<tr>
<td>CHEM 455 Intro Biomedical Chem</td>
<td>CHEM 453 Org Chem Nucl Acid</td>
</tr>
<tr>
<td>CHEM 457 Total Syn Nat Products</td>
<td>CHEM 455 Intro Biomedical Chem</td>
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Rationale (see instructions):

We would like to request BIOL 421 – Topics in Molecular Genetics be added to the list of upper level elective options for Biochemistry & Molecular Biology majors. For the BIOC BS major, students must complete 6-8 credits of upper level electives from a given list. BIOL 421 was originally taught as a special topic under BIOL 420 – Advanced Topics in Cell Biology, a course already acceptable for the major. BIOL 421 is relevant to the field of biochemistry and would broaden the course options for our students.