**Transfer Guide**

**WCJC & UHD**

**Bachelor of Science in Biotechnology**

**2012-2013 Catalog**

Students pursuing a Bachelor of Science degree in Biotechnology at the University of Houston-Downtown are strongly encouraged to complete the Associate Degree before transferring to UHD. The degree provides a solid foundation through the traditional liberal arts education, and Associate Degree core curriculum courses taken at Wharton County Junior College will transfer to UHD. Studies indicate students who complete an Associate degree are more likely to successfully complete a Bachelors degree.

### General Education Requirements

**Common Core Requirements (38 hours)**

<table>
<thead>
<tr>
<th>WCJC</th>
<th>UHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (6 hours)</td>
<td>Communications (9 hours)</td>
</tr>
<tr>
<td>ENGL 1301 Composition I</td>
<td>ENG 1301 Composition I</td>
</tr>
<tr>
<td>ENGL 1302 Composition II</td>
<td>ENG 1302 Composition II</td>
</tr>
<tr>
<td>Oral Communication (3 hours)</td>
<td>Oral Communication (3 hours)</td>
</tr>
<tr>
<td>SPCH 1315 Public Speaking</td>
<td>COMM 1306 Beginning Public Speaking</td>
</tr>
<tr>
<td>Mathematics (4 hours)</td>
<td>Mathematics (4 hours)</td>
</tr>
<tr>
<td>See Basic Mathematics and Sciences List</td>
<td>See Basic Mathematics and Sciences List</td>
</tr>
<tr>
<td>Natural Science (8 hours)</td>
<td>Natural Science (8 hours)</td>
</tr>
<tr>
<td>Note: Eight hours of lab sciences for science majors in the same natural science* approved by the CMS department advisor.</td>
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</tr>
<tr>
<td>BIOL, CHEM, GEOL, or PHYS</td>
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</tr>
<tr>
<td>Humanities (3 hours)</td>
<td>Humanities (3 hours)</td>
</tr>
<tr>
<td>For a complete list of all fully transferable WCJC Humanities core course options check the 2012-2013 Catalog.</td>
<td>Any literature class</td>
</tr>
<tr>
<td>Visual and Performing Arts (3 hours)</td>
<td>Visual &amp; Performing Arts (3 hours)</td>
</tr>
<tr>
<td>Select 3 hours from one of the following:</td>
<td>Select 3 hours from one of the following:</td>
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<tr>
<td>ARTS, DANCE, DRAM or MUSI</td>
<td>ART, DRA or MUS</td>
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<tr>
<td>American History (6 hours)</td>
<td>US History (6 hours)</td>
</tr>
<tr>
<td>HIST 1301 U.S. History I</td>
<td>HIST 1305 United States History to 1877</td>
</tr>
<tr>
<td>HIST 1302 U.S. History II</td>
<td>HIST 1306 United States History after 1877</td>
</tr>
<tr>
<td>Government (6 hours)</td>
<td>Political Science (6 hours)</td>
</tr>
<tr>
<td>GOVT 2301 American, National and State Government: Constitutions, Federalism and Participation</td>
<td>POLS 2303 United States Government I</td>
</tr>
<tr>
<td>GOVT 2302 American, National and State Government: Institutions, Rights and Public Policies</td>
<td>POLS 2304 United States Government II</td>
</tr>
<tr>
<td>Social/Behavioral Science (3 hours)</td>
<td>Social/Behavioral Science (3 hours)</td>
</tr>
<tr>
<td>Select one of the following:</td>
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</tr>
<tr>
<td>ANTH 2351 Cultural Anthropology</td>
<td>ANTH 2302 Cultural Anthropology</td>
</tr>
<tr>
<td>GEOG 1303 World Geography</td>
<td>GEOG 1302 World Geography</td>
</tr>
<tr>
<td>PSYC 2301 Introduction to General Psychology</td>
<td>PSY 1303 Introduction to Psychology</td>
</tr>
<tr>
<td>SOCI 1301 Introduction to Sociology</td>
<td>SOC 1303 Introduction to Sociology</td>
</tr>
</tbody>
</table>

Any course taken to complete this core component not listed above will satisfy the requirement at UHD.

For a complete list of all the Social and Behavioral Science
core courses options check the WCJC 2011-2012 catalog.

Kinesiology (1 hour) 090
Check the WCJC 2012-2013 catalog for a complete list of all kinesiology course options.

Computer Literacy (4 hours)
See List of Computer Science Courses

A transfer student who has successfully completed all of the common core requirements at WCJC or another institution of higher education will satisfy all the UHD common core requirements. If not all of the common core requirements have been completed prior to the transfer, each core course transferred will be credited and will satisfy the corresponding common core requirements at UHD. Remaining UHD common core requirements must be satisfied. All prerequisites for UHD courses must be met.

Courses not listed on this sheet that satisfy core curriculum components (see italicized number) satisfy the equivalent component at the transferring institution or as free electives.

Technical Writing (3 hours)
Select one of the following:
- ENG 3302 Business & Technical Report Writing
- ENG 3325 Medical Writing
- ENG 3326 Proposal Writing
- ENG 3329 Environmental Writing
- ENG 4306 Science Writing

Basic Science and Math (43 hours)
(Some of the following courses may be taken to fulfill common core requirements)
- BIOL 1406 General Biology I (fulfills Core)*
- BIOL 1407 General Biology II (fulfills Core)*
- CHEM 1411 General Chemistry I
- CHEM 1412 General Chemistry II
- COSC 1436 Programming Fundamentals I (fulfills Core)*
- MATH 2413 Calculus I (fulfills Core)*

NOTE: To receive credit for BIOL 2420 (at WCJC) for MBIO 2305/2105 (at UHD) students must earn a grade of B or better.

Eight additional hours of lower-level biology or physics

Upper-Level Science (44 hours)
- BIOL 3303/3103 General Genetics w/Lab
- BIOL 3330/3130 Plant Biology w/Lab or
- BIOL 3340/3140 Biology of Fungi w/Lab
- BIOL 4220 Introduction to Genomics & Bioinformatics or
- BIOL 4330 Molecular Biology
- BIOL 4230 Advanced Laboratory in Cell and Molecular Biology
- CHEM 3301/3201 Organic Chemistry I w/Lab
- CHEM 4340/4140 General Biochemistry I w/Lab
- MBIO 4210 Biology Seminar
- MBIO 4310 Microbial Biotechnology
- MBIO 4320/4120 Immunology w/Lab

One of the following:
- CHEM 3302/3202 Organic Chemistry II w/Lab
- CHEM 3310/3110 Quantitative analysis w/Lab
One of the following:
BIOL 4320 Cellular Biology
CHEM 4342 General Biochemistry II
CHEM 4364 Polymer Chemistry
NOTE: BIOL/CHEM/MBIO 4390 as approved by advisor
STAT 4307 Time Series
MATH 3301 Differential Equations
MATH 4304 Intro. To Partial Diff. Equations
MATH 4315 Mathematical Modeling
MATH 4399 Directed Study in Mathematics

One of the following:
BIOL 4313/4113 Parasitology
BIOL 4325 Advanced Microscopy
BIOL/CHEM/MBIO 4390 Special Topics
NOTE: BIOL/CHEM/MBIO 4390 as approved by advisor
CHEM 4360 Industrial Organic Chemistry
MBIO 3320 Virology
MBIO 3340 Environmental Microbiology
CS 3300 Objective Oriented Programming
CS 3308 Numerical Methods
CS 4306 Mathematical Models and Simulation
CS 4328 Parallel Computing
CS 4333 Theory & Applications of Neural Nets or
CS 4399 Directed Study in Computer Science

*BIOL/CHEM/MBIO 4390 must be approved for the degree plan in writing by your Faculty Advisor.

INTERSHIP or RESEARCH PROJECT IN BIOTECHNOLOGY (3 HOURS)

120 Hours Required

ADDITIONAL REQUIREMENTS - May be satisfied by requirements above

• TSI Complete - see university catalog for more information
• ONE ETHICAL AND MORAL ISSUES COURSE - See NS website for eligible courses
• ONE ADDITIONAL WRITING SKILLS COURSE - See NS website for eligible courses
• ONE WORLD COMMUNITY COURSE - See NS website for eligible courses
  ENG 2301, 2302, 2313, or 2314 will satisfy both the Sophomore Lit and World Community requirements.
• ONE NONVERBAL ANALYTICAL SKILLS COURSE - Satisfied by degree requirements

Courses taken at WCJC do not transfer as Upper Level credits.

Check with your advisor about how requirements from the Associate of Arts, the Associate of Science, and whether requirements from the Associate of Applied Science may be applied.

For a complete list of all Academic Requirements and criteria for the College of Sciences and Technology, Natural Sciences Department, located at 813-North, call 713-221-8015, or visit the UHD web site at www.uhd.edu/sciences/ns/

Revised 10/19/12