The City University of New York
Articulation Agreement

Agreement Initiated by: New York City College of Technology and Hunter College

Sending College: New York City College of Technology
Department: Physics
Degree: Associate in Science (LAS)

Receiving College: Hunter College
Department: Physics and Astronomy
Program: Physics BA Program
Degree: Bachelor of Arts (BA)

Admission requirement (e.g. minimum GPA, audition/portfolio)

A student must have a 2.5 average or better to continue study at Hunter College after having completed 25 or more credits.

Total transfer credit granted toward baccalaureate degree: 60

Total additional credits required by senior college to complete 120 credits for baccalaureate degree: 60

Hunter College, Department of Physics and Astronomy agrees to accept into the B.A. program in Physics students from New York City College of Technology who successfully complete an associate degree in science in Liberal Arts (LAS). Completion of the curriculum includes the attainment of at least a 2.0 overall grade-point average.

Hunter College and New York City College of Technology agree to offer the courses noted in the B.A. program in Physics (Hunter) and the LAS program at New York City College of Technology described in the following, as outlined in each college’s catalog, and agree to notify each other if course numbers, content or catalog descriptions change. Furthermore, the parties involved understand that any change in course number, content or catalog description may require a modification to this agreement.
### COURSE-TO-COURSE EQUIVALENCIES AND TRANSFER CREDIT AWARDED

### General Education (Liberal Arts, Core, Distribution) Courses

The table below assumes that a student takes the following classes as Associate Degree Core requirement totaling 18 credits at City Tech. Courses may be substituted with other Humanities and Social Sciences Electives. Distribution requirements must be chosen carefully to meet the Hunter diversity criteria.

<table>
<thead>
<tr>
<th>Sending College</th>
<th>CR</th>
<th>GER</th>
<th>Receiving College Equivalent</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENG 1121 English Composition II</strong></td>
<td>3.0</td>
<td>1A</td>
<td><strong>ENGL 120 Expository Writing</strong></td>
<td>3.0</td>
</tr>
<tr>
<td><strong>HIS 1110 History of the United States to 1877</strong></td>
<td>3.0</td>
<td>1C</td>
<td><strong>HIST 151 The United States from the Colonial Era to the Civil War</strong></td>
<td>3.0</td>
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<tr>
<td><strong>AFR 2201 Early Black Writers in American Literature</strong></td>
<td>3.0</td>
<td>2A;P/DB</td>
<td><strong>AFPRL 236 African-American Literature</strong></td>
<td>3.0</td>
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<tr>
<td><strong>SOC 1101 Elements of Sociology</strong></td>
<td>3.0</td>
<td>2B</td>
<td><strong>SOC 101 Introduction to Sociology</strong></td>
<td>3.0</td>
</tr>
<tr>
<td><strong>PHIL 2101 Introduction to Philosophy</strong></td>
<td>3.0</td>
<td>2C</td>
<td><strong>PHILO 101 Introduction to Philosophy</strong></td>
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</tr>
<tr>
<td><strong>MUS 1201 Musical Concepts: a Guide to Listening</strong></td>
<td>3.0</td>
<td>2D;P/DD</td>
<td><strong>MUSHL 101 Introduction to Music</strong></td>
<td>3.0</td>
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<tr>
<td><strong>ENG 1101 English Composition I</strong></td>
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<td>Electives</td>
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<tr>
<td><strong>Social Science Elective</strong></td>
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<td></td>
<td>Requirement for Social Sciences: People and their Societies</td>
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<tr>
<td><strong>Electives</strong></td>
<td>5.0-7.0</td>
<td></td>
<td>General Education Electives</td>
<td>5.0-7.0</td>
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<td><strong>Subtotal</strong></td>
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<td></td>
<td><strong>Subtotal</strong></td>
<td>26.0-28.0</td>
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</table>

**Subtotal 26.0-28.0**

### Specific Program Requirement (Including Prerequisites) Course Requirement

<table>
<thead>
<tr>
<th>Sending College</th>
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<th>GER</th>
<th>Receiving College Equivalent</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHYS 1433 Physics 1.2</strong>*</td>
<td>4.0</td>
<td>2E</td>
<td><strong>PHYS 110 General Physics</strong></td>
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<tr>
<td><strong>PHYS 1434 Physics 2.2</strong>*</td>
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<td><strong>PHYS 120 General Physics</strong></td>
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<td><strong>PHYS 1441 Physics 1.3</strong>*</td>
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<td><strong>PHYS 111 General Physics:</strong> Introductory Course in Mechanics, Heat, and Sound</td>
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<tr>
<td><strong>PHYS 1442 Physics 2.3</strong>*</td>
<td>5.0</td>
<td>2E</td>
<td><strong>PHYS 121 General Physics:</strong> Introductory Course in Electricity and Magnetism, Light, and Atomic Physics</td>
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</tr>
<tr>
<td><strong>PHYS 2443 Physics 3.3</strong></td>
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<tr>
<td><strong>PHYS 1117 Astronomy I</strong></td>
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<td>Elective</td>
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<tr>
<td><strong>PHYS 1118 Astronomy 2: Stars, Galaxies, Cosmology</strong></td>
<td>4.0</td>
<td></td>
<td><strong>ASTRO 100 Basic Concepts in Astronomy</strong></td>
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<td></td>
<td></td>
<td></td>
<td><strong>ASTRO 107 Laboratory Exercises in Astronomy</strong></td>
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<tr>
<td><strong>PHYS 2605 Introduction to Laser Physics and Photonics</strong></td>
<td>4.0</td>
<td></td>
<td><strong>PHYS 231 Fundamentals of Laser and Fiber Optics</strong></td>
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<tr>
<td><strong>MAT 1475 Calculus I</strong></td>
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<td><strong>MAT 150 Calculus and Analytical Geometry</strong></td>
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<td><strong>MAT 1575 Calculus I</strong></td>
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<td><strong>MAT 155 Calculus with Analytic Geometry II</strong></td>
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<td></td>
<td><strong>Subtotal</strong></td>
<td>32.0-34.0</td>
</tr>
</tbody>
</table>

*Only one of the sequences PHYS 1443-1434 OR PHYS 1441-1442 will be transferred.
TOTAL NUMBER OF CREDITS TRANSFERRED: 60

Courses to take at Hunter (and Credits Requirement)

Graduation Requirements and Electives

Introduction to Foreign Language (0-6)**
One course with a "W" designation (3)
Intermediate Foreign Language (0-6)**
Pluralism and Diversity Requirement (0-6)

Subtotal: 3-21

Need: P/D A and C
Electives as Needed to complete 120 credits: 5-32

Prerequisite and Major Courses

PHYS 190 Tutorial in Mathematical Physics (2)
PHYS 335 Intermediate Mechanics (4)
PHYS 230 Classical Physics Laboratory (2)
PHYS 235 Modern Physics Laboratory (2)
PHYS 330 Atomic and Nuclear Physics (4)
PHYS 334 Intermediate Electricity and Magnetism (4)
CHEM 102, 103, 104, 105 General Chemistry and Lab (0-9)***
MATH 250 Calculus Analytical Geometry III (4)
MATH 254 Ordinary Differential Equation (3)

Subtotal: 25-34

CREDITS TO BE TAKEN AT HUNTER: 60

NOTES:

** Each year of high school foreign language counted as one semester at Hunter College.
*** The chemistry requirement is not required of students who have at least one year of high school chemistry.
Procedures for reviewing, updating modifying or terminating agreement:

New York City College of Technology Department of Physics Chairperson Dr. Roman Kezerashvili (or successor) and Hunter College Department of Physics and Astronomy Chairperson Dr. Ying-Chih Chen (or successor) will review implementation of the agreement every two years to ensure that students are adequately informed of the program and to identify issues requiring attention.

Procedures for evaluating agreement, e.g., tracking the number of students who transfer under the articulation agreement and their success:

After transfer into the Hunter College Physics BA program, the performance of New York City College of Technology (NYCCT) students will be tracked using the CUNY Institutional Research Data Base. The Hunter College Department of Physics and Astronomy will inform NYCCT about the academic progress of transfer students. Additionally, these students will be surveyed after graduation from Hunter College to determine educational and occupational experience and success, and Hunter College will share this information with NYCCT.

The Department of Physics and Astronomy at Hunter College will provide advisement to all students entering the program.

Sending and Receiving College procedures for publicizing agreement, e.g., college catalogs, transfer advisors, Websites, etc.:

Notice of articulation will be placed in the respective catalogues, recruiting brochures, websites, and on the CUNY TIPPS website.

Respective transfer and academic advisers will be informed and provided with copies of this agreement.

Effective Agreement Date: Dec 14, 2010

Bonne August
Provost and Vice President for Academic Affairs
New York City College of Technology

Vita Rabinowitz
Provost and Vice President for Academic Affairs
Hunter College

Roman Kezerashvili
Chairperson, Dept. of Physics
New York City College of Technology

Ying-Chih Chen
Chairperson, Dept. of Physics and Astronomy
Hunter College