

Mercer County Community College
And
New Jersey Institute of Technology
2 + 2 Connect Articulation Agreement
A.S. in Engineering Science/B.S. in Engineering

This Articulation Agreement (“Agreement”), effective as of the date of the last signature hereto (“Effective Date”), by and between Mercer County Community College (“MCCC”) and New Jersey Institute of Technology (“NJIT”), connects students in MCCC’s Associate Degree Program in Engineering Science to various Bachelor of Science (“BS”) Degree programs at the Newark College of Engineering (“NCE”) at NJIT. These connected degree programs enable students to complete their Associate Degrees at MCCC and then transfer to a four-year program at NJIT as a junior towards completion of their BS Degrees.

WHEREAS, MCCC and NJIT are both accredited institutions of higher education and generally accept for transfer purposes credits earned by students at the other institution and each party desires to establish a protocol to facilitate the transfer of credits earned by students in the Associate Degree Program in Engineering Science of MCCC into BS Degree programs of NJIT on a non-exclusive basis and pursuant to the following terms and provisions.

WHEREAS, performance of this Agreement shall be in full compliance with the State of New Jersey’s Transfer Policy of September 2007, and the Comprehensive Statewide Transfer Agreement.

WHEREAS, the successful implementation of this Agreement depends upon communication of its contents to all involved participants, and assumptions of responsibility by both institutions for such communication. Periodic reviews and updates are essential to ensuring a 2 + 2 curriculum. Programmatic changes by either institution will necessitate amendments to this Agreement as appropriate.

The Connected Degree 2 + 2 Curriculum

The MCCC Associate Degree Program in Engineering Science prepares students to transfer to baccalaureate degree programs offered by major engineering institutions such as NJIT. Students develop a strong foundation in mathematics, physics, and chemistry, with emphasis on engineering applications and use of the computer as a problem-solving tool. A strong general education curriculum helps MCCC students develop communication and analytical skills.

The Newark College of Engineering BS Degree programs prepare graduates to enter the profession of modern engineering. Students are prepared to apply a broad knowledge of mathematics, science, analysis, and design to engineering problems. Students are given an

opportunity to experience real-world laboratory research and design problems. Graduates may be employed in industry, government, or academia. Additionally, graduates will be prepared to pursue graduate studies, should they choose to do so.

The attached guide sheets provide course equivalencies and/or area requirements where:

- a. Table A.1 identifies course equivalencies between MCCC and courses common to all programs within NCE for year 1 and 2.
- b. Tables B.1 through B.7 identify course equivalencies between MCCC and specific programs within NCE for years 1 and 2. Should any of these courses not be offered at MCCC, the student should discuss with their advisor the possibility of taking these courses at another institution. NCE at NJIT will work with MCCC to identify institutions whose courses are acceptable for transfer.
- c. Example: students satisfying Tables A.1 and B.3 courses have junior standing toward their degree upon enrolling into the Civil and Environmental Engineering Programs at NCE.

Summary credit hour requirements (program dependent):

- | | |
|--|-----------|
| d. Transfer credits from Mercer Community College | 52 - 62 |
| e. Credits to be taken at the New Jersey Institute of Technology | 67 - 83 |
| f. Total Credits for Bachelor of Science | 129 - 135 |

Transfer Guidelines

The purpose of this Agreement is to facilitate MCCC students who transfer to NJIT to carry with them the credit they have already earned for as much relevant study as possible. Any MCCC student who is admissible to NJIT may transfer credits designated in the attached Tables subject to the following terms and conditions:

- a. The MCCC student must have completed his/her work at MCCC in good academic, behavioral and financial standing.
- b. MCCC students will go through NJIT's transfer process and therefore must meet all applicable requirements and deadlines pertaining to application for admission, orientation and registration, and payment of tuition and fees. They will abide by the policies and procedures, along with any revisions thereof that apply to all NJIT students.
- c. Only courses in which the MCCC student earned a grade of "C" or higher and which were applicable toward a BS Degree program at NJIT (e.g., Table A) will be considered for acceptance by NJIT.
- d. The application and distribution of credits transferred may vary depending on the program of study the MCCC student chooses to pursue at NJIT.
- e. The MCCC student must otherwise meet the admissions standards and comply with the admissions procedures of NJIT.

- f. All determinations that a MCCC student has satisfied the prerequisites for admission, and the application of credit to a NJIT program of study shall be made in the absolute discretion of NJIT.
- g. NJIT reserves the right to deny admission and/or the granting of transfer credit for courses completed with respect to any person whose participation in an NJIT program imposes an undue risk of harm to him/herself or others or the property of NJIT or others, or if the person is determined to have submitted false or misleading credentials, to have participated in academic dishonesty, fraud or misrepresentation in any courses, or is otherwise determined to be ineligible for participation in the NJIT program of study that the MCCC student chooses to pursue.
- h. MCCC agrees that NJIT shall have sole and final authority and oversight with respect to all academic matters regarding NJIT's degree programs, including but not limited to admission and registration processes, tuition and fees (including increases and in-state/out-of-state rate determinations), conferring of degrees and maintenance of all of its own official student records.

Responsibilities of Parties

Each institution shall be solely responsible for establishing, collecting and retaining tuition from students enrolled in any of their degree programs. The intent of the institutions is that neither shall receive any compensation from the other under this Agreement and there will be no tuition or revenue sharing of any kind. Neither institution shall have any financial obligation to the other institution under this Agreement.

To the extent allowable by applicable law, each institution hereby assumes any and all risks of personal injury, property damage and third party claims attributable to the negligent acts or omissions of that institution and the officers, employees and agents thereof.

Except with respect to the articulation protocol established in this Agreement, MCCC students must comply with and will be bound by the standards, policies, guidelines and regulations of NJIT in effect at the time of their application for admission to NJIT and during their enrollment at the same.

This Agreement is not intended to and shall not be so construed as to create any independent rights in any students of MCCC nor include MCCC students as parties hereto.

During the term of this Agreement, each institution hereby grants to the other institution a non-exclusive and non-transferable right, to use and display the other institution's name and/or logos in print publications in connection with the promotion and implementation of this Agreement. All promotional and/or marketing materials created or used by either institution will be pre-approved by the other institution prior to dissemination; such approval not to be unreasonably withheld.

Unless authorized by NJIT, MCCC will not make any representations or offer any guarantees to prospective MCCC students about the likelihood of awards of financial aid or scholarships or student employment at NJIT.

Compliance

Implementation and interpretation of this Agreement will be consistent with and subject to all applicable and mandatory approvals, policies and procedures established by the appropriate accreditation bodies, including Middle States Commission on Higher Education, the New Jersey Secretary of Higher Education, the United States Department of Education, and other agencies that have jurisdiction over the operation of either institution.

Participation of MCCC students under the articulation protocol established in this Agreement will be permitted in compliance with applicable federal, state, and local non-discrimination laws and regulations.

Both institutions shall maintain their respective individual accreditation and this Agreement shall be binding only so long as that accreditation is maintained by both institutions.

Both institutions recognize that they are bound to comply with the Family Educational Rights and Privacy Act of 1974, as it may be amended from time to time, in the handling of educational records of students enrolled in their institutions.

General Provisions

This Agreement may not be assigned or delegated by either institution without the further written consent of the other institution.

Each institution acknowledges and agrees that the relationship with each other is that of independent contractors, and this Agreement shall not be construed to create a partnership, joint venture or agency relationship between MCCC and NJIT.

This Agreement shall not be amended or modified except by written agreement of the institutions.

This Agreement represents the entire agreement between the institutions with respect to the subject matter and supersedes all prior articulation agreements between the institutions. This Agreement shall have retroactive application to any MCCC student covered under a prior articulation agreement between the institutions.

This Agreement shall be governed by and construed in accordance with the laws of the State of New Jersey without regard to its conflicts of laws principles and rules. In the event of a dispute, the institutions shall firstly attempt to settle it by negotiation within thirty (30) days before any other action is taken.

Neither institution shall have any liability to the other for consequential, exemplary, special, incidental or punitive damages even if advised of the possibility of such damages, including without limitation lost profits and opportunity.

Except as otherwise contained herein, each institution disclaims all warranties and representations, either express or implied, with respect to its programs and/or any courses or services to be provided hereunder.

Both institutions recognize that the proprietary information and/or materials of each institution shall remain the property of that institution throughout and subsequent to this Agreement.

If the performance of any obligation under this Agreement on the part of either institution should be prevented or delayed by an event of force majeure beyond its reasonable control, including but not limited to acts of war, revolution, insurrection, terrorism, civil unrest, strikes or work stoppages, fire, flood, earthquake or other natural disaster, then the affected institution's duty to perform its obligations under this Agreement shall be excused as reasonably required or justified by the circumstances, and this Agreement may be terminated upon the written request of either institution.


Longevity of this Agreement

This Agreement shall continue until it is discontinued by either institution by submitting written notification to the other institution at least ninety (90) days before the end of any semester in NJIT's school year in order to protect all students transferring between the parties. Such early termination notice shall be effective for the upcoming semester and without further liability or obligation to the other institution.

In the event that this Agreement is terminated early, NJIT commits that it shall make a good faith effort to formulate a "teach-out" plan applicable to all then enrolled MCCC students, including permitting such affected students to pursue transfer to NJIT under the articulation protocols established herein. The institutions agree that any early termination shall be made through a consultative process with one another.


Signatures

The institutions have duly executed and delivered this Agreement as of the dates set forth below.



Dr. Ian Gatley
Provost and Senior Vice President
for Academic Affairs
New Jersey Institute of Technology

11/30/12
Date



Dr. Guy Generals
Vice President for Academic Affairs
Mercer County Community College

11-13-12
Date

Table A.1: Course Equivalency for Courses Common to All Engineering Degree Programs at NCE/NJIT

| Mercer County Community College | | | New Jersey Institute of Technology | | |
|---|--|----------------|------------------------------------|--|----------------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| ENG 101 | ENGLISH COMPOSITION I | 3 | HUM 101 | English Composition, Writing, Speaking, Thinking I | 3 |
| PHY 115 | UNIVERSITY PHYSICS I | 4(3) | Phys 111 | Physics I | 3 |
| PHY 115 | UNIVERSITY PHYSICS I | (1) | Phys 111A | Physics I Lab | 1 |
| CHE 101 | GENERAL CHEMISTRY I | 4(3) | Chem 125 | General Chemistry I | 3 |
| MAT 151 | CALCULUS I | 4 | Math 111 | Calculus I | 4 |
| Depending on status and background courses (such as CAD) this course might be waived. | | | FED 101 | Fundamental of Engineering. Design | 2 |
| HPE 110 | CONCEPTS OF HEALTH AND FITNESS | 2 | PE xxx | Physical Education (GUR) | 1 |
| | | | PE xxx | Physical Education (GUR) | 1 |
| ENG 102 | ENGLISH COMPOSITION II | 3 | HUM 102 | English Composition, Writing, Speaking, Thinking II | 3 |
| PHY 215 | UNIVERSITY PHYSICS II | 4(3) | Phys 121 | Physics II | 3 |
| PHY 215 | UNIVERSITY PHYSICS II | (1) | Phys 121A | Physics II Lab | 1 |
| CHE 101 | GENERAL CHEMISTRY I | (1) | Chem 124* | General Chemistry Lab | 1 |
| | | | | Not required for EE and CoE | 0 |
| CHE 102 | GENERAL CHEMISTRY II | 4(3) | Chem126* | General Chemistry II | 3 |
| | | | | Not required for EE and CoE | 0 |
| COS 101 | INTRODUCTION TO COMPUTER SCIENCE | 4 | CS 101 or CS 113 | Computer Programming and Problem Solving or Introduction to Computer Science (for EE or CoE) | 3 |
| MAT 152 | CALCULUS II | 4 | Math 112 | Calculus II | 4 |
| MAT 251 | CALCULUS III | 4 | Math 211 | Calculus III A | 3 |
| | | | Math 213 | Calculus III B (for EE or CoE) | 4 |
| MAT 252 | DIFFERENTIAL EQUATIONS | 4 | Math 222 | Differential Equations | 4 |
| ECO 112 | MICROECONOMICS | 3 | Econ 201 | Economics | 3 |
| | HISTORICAL PERSPECTIVE/HUMANITIES ELECTIVE | 3 | HUM/HIST | Cultural History Elective: Hum 211, Hum212, or Hist 213 | 3 |
| | GENERAL ELECTIVE | 3 | SS elect** | Econ 2xx, R070:2xx, R202:2xx, R790:2xx, or R830:2xx, R920:2xx | 3 |
| TOTAL Toward Degree (Total for EE and CoE) | | 52 (49) | | TOTAL NJIT (EE and CoE) | 52 (49) |

*Not required for electrical engineering (EE) and computer engineering (CoE)

**NJIT students not required to take in year 1 and 2.

Table B.1: Biomedical Engineering

| Mercer County Community College | | | Biomedical Engineering Program | | |
|---------------------------------|--|------|--------------------------------|--|------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| | | | BME 105 | Intro. to Human Physiology I | 2 |
| | | | BME 106 | Intro. to Human Physiology II | 1 |
| | | | BME 301 | Electrical Fundamentals of Biomedical Engineering | 3 |
| | | | BME 302 | Mechanical Fundamentals of Biomedical Engineering | 3 |
| | | | BME 303 | Biological and Chemical Foundation of Biomedical Engr. | 3 |
| MAT 201 | PROBABILITY & STATISTICS FOR SCIENCE & ENGINEERING | 4 | Math 279 | Statistics and Probability for Engineering | 2 |
| | | | BME 310 | Biomedical Computing | 3 |
| MAT 208 | LINEAR ALGEBRA | 4 | Math 337 | Linear Algebra | 3 |
| CHE 201 | ORGANIC CHEMISTRY I | 5 | Chem 243 | Organic Chemistry | 3 |

Table B.2: Chemical, Biological, and Pharmaceutical (CBPE) Engineering

| Mercer County Community College | | | CBPE Engineering Program | | |
|---------------------------------|---------------------|------|--------------------------|--|------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| | | | ChE 210 | Chemical Process Calculation I | 2 |
| | | | ChE 210W | Chemical Process Calculation I | 0 |
| | | | ChE 230 | Chemical Engineering Thermodynamics I | 3 |
| | | | ChE 230 W | Chemical Engineering Thermodynamics I | 0 |
| CHE 201 | ORGANIC CHEMISTRY I | 5 | Chem 245 | Organic Chemistry for Chemical Engineers | 4 |
| | | | Chem 238 | Analytical Organic Chem lab for Chemical Engineers | 2 |
| | | | ChE 240 | Chemical Process Calculations II | 3 |
| | | | ChE 240W | Chemical Process Calculations II | 0 |
| | | | ChE 260 | Fluid Flow | 3 |
| | | | Chem 236 | Physical Chemistry for Chemical Engineers | 4 |

Table B.3: Civil and Environmental Engineering

| Mercer County Community College | | | Civil & Environmental Engineering Program | | |
|---------------------------------|--|------|---|---------------------------------------|------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| CIV 101 | SURVEYING I | 3 | CE 200 | Surveying | 3 |
| | | | CE 200A | Surveying Laboratory | 1 |
| MAT 201 | PROBABILITY & STATISTICS FOR SCIENCE & ENGINEERING | 4 | Math 225 | Survey of Prob. and Statistics | 1 |
| CIV 103 | STATICS | 3 | Mech 235 | Statics | 3 |
| | | | EnE 262 | Intro. to Environmental Engrg. | 3 |
| | | | CE 210 | Construction Materials and Procedures | 3 |
| | | | CE 260 | Civil Engineering Methods | 3 |
| CIV 230 | MECHANICS OF SOLIDS | 4 | Mech 237 | Strength of Materials | 3 |

Table B.4: Computer Engineering

| Mercer County Community College | | | Computer Engineering Program | | |
|---------------------------------|--|------|------------------------------|-------------------------------|------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| COS 210 | COMPUTER SCIENCE II DATA STRUCTURES | 4 | CS 114 | Intro. to Computer Science II | 3 |
| | | | ECE 231 | Circuits and Systems | 3 |
| | | | ECE 251 | Digital Design | 3 |
| | | | ECE 271 | Electronic Circuits | 3 |
| | | | ECE 252 | Microprocessors | 3 |
| | | | ECE 232 | Circuits and Systems II | 3 |
| | | | ECE 291 | Electrical Engineering Lab | 1 |

Table B.5: Electrical Engineering

| Mercer County Community College | | | Electrical Engineering Program | | |
|---------------------------------|------------------------|------|--------------------------------|----------------------------|------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| | | | ECE 231 | Circuits and Systems | 3 |
| | | | ECE 251 | Digital Design | 3 |
| | | | ECE 271 | Electronic Circuits | 3 |
| | | | ECE 252 | Microprocessors | 3 |
| | | | ECE 232 | Circuits and Systems II | 3 |
| | | | ECE 291 | Electrical Engineering Lab | 1 |
| PHY 225 | UNIVERSITY PHYSICS III | 4 | Phys 234 | Physics III | 3 |

Table B.6: Mechanical Engineering

| Mercer County Community College | | | Mechanical Engineering Program | | |
|---------------------------------|--|------|--------------------------------|--|------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| MAT 201 | PROBABILITY & STATISTICS FOR SCIENCE & ENGINEERING | 4 | Math 279 | Statistics and Probability for Engineers | 2 |
| | | | ME 215 | Engineering Materials and Processes | 3 |
| | | | ME 231 | Kinematics of Machinery | 3 |
| CIV 103 | STATICS | 3 | Mech 234 | Engineering Mechanics | 2 |
| | | | Mech 236 | Dynamics | 2 |
| CIV 230 | MECHANICS OF SOLIDS | 4 | Mech 237 | Strength of Materials | 3 |

Table B.7: Industrial Engineering

| Mercer County Community College | | | Industrial Engineering Program | | |
|---------------------------------|--|------|--------------------------------|---|------|
| Course # | Title | C.H. | Course # | Title | C.H. |
| | | | IE 203 | Applications of Computer Graphics to Industrial Enrg. | 2 |
| CIV 230 | MECHANICS OF SOLIDS | 4 | Mech 320 | Statics and Strength of Materials | 3 |
| | | | Eng 352 | Technical Writing | 3 |
| | | | IE 224 | Production Process Design | 3 |
| | | | Mech 236 | Dynamics | 2 |
| MAT 201 | PROBABILITY & STATISTICS FOR SCIENCE & ENGINEERING | 4 | IE 331 | Applied Statistical Methods | 3 |