MEMORANDUM OF AGREEMENT REGARDING ARTICULATION

between

THE PENNSYLVANIA STATE UNIVERSITY
Penn State Harrisburg, The Capital College
Middletown, Pennsylvania, United States of America

and

NITTE (DEEMED TO BE UNIVERSITY)
Karnataka, India

This Memorandum of Agreement Regarding Articulation ("Agreement") is made and entered into as of the date of last signature by and between Nitte (Deemed to be University) ("NitteDU") and The Pennsylvania State University, on behalf of Penn State Harrisburg and its School of Science, Engineering and Technology ("Penn State", and together with NitteDU, each a "Party" and together the "Parties") hereby agree to establish an articulation program in the fields of Engineering, Engineering Technology and Computer Science under the conditions set forth in this Agreement.

SECTION 1. SCOPE

The Parties agree to establish an articulation program at the undergraduate level, a so-called 2+2 program (the "Program"), in the following majors: Engineering, Engineering Technology and Computer Science. Under this Program, NitteDU students will commence and complete the first two years of their undergraduate studies at NitteDU where they will take specific pre-approved courses. Upon successful completion of the first two years and meeting all Program and Penn State admission requirements, NitteDU students participating in the Program will be allowed transfer to Penn State where they will complete their undergraduate studies in Engineering, Engineering Technology and Computer Science. Students who successfully complete the Program will earn a Bachelor of Science degree from the Penn State School of Science, Engineering and Technology in Computer Science, Electrical Engineering, Electrical Engineering Technology, Mechanical Engineering Technology, or Mechanical Engineering.

SECTION 2. ADMISSION PROCEDURE

2.1 Eligibility. Only students admitted to NitteDU as first-semester (freshmen) may participate in this Program; it is not available to students admitted to NitteDU as transfer students.

2.2 Student Advising. NitteDU is responsible for advising prospective Program participants and providing them with Program procedures, policies, course and degree requirements and curriculum planning guides during the first two years of the Program. Penn State will provide NitteDU with curriculum planning guides used by Penn State advisers for each major.

2.3 Nomination. Penn State will accept up to 125 students into the Program each year, but depending on enrollment restrictions and other circumstances, Penn State reserves the right not to accept any student in a given cycle.

NitteDU will screen and nominate students for the Program and provide a list of nominated Program candidates to Penn State Harrisburg's Coordinator for International Admissions no later than September 1 of the applicant's second year at NitteDU to allow Penn State to track prospective NitteDU applications.

2.4 Course and Grade Requirements. Interested NitteDU students must complete core and major-specific courses at NitteDU that have been preapproved by Penn State. Depending on their majors, NitteDU students must obtain a minimum of 62-71 transferrable credits in order to qualify for the Program. (62 credits for CE CA, 63 credits for M E T, 67 credits for ME CA and E ENG, 65 credits for COMP_BS, and 71 credits for E E T).

NitteDU students must submit official transcripts showing completion of required coursework with satisfactory grades at NitteDU. Only courses with individual grades of C (Penn State grading scale) or better can be transferred to Penn State. NitteDU students must have a cumulative grade point average equivalent of 2.0 or better (Penn State grading scale) in order to be admitted into the Program. General Education courses will be evaluated by representatives from Penn State Harrisburg and NitteDU.

2.5 Application Requirements. NitteDU students must submit the following application materials no later than October 15 of the applicant's second year at NitteDU:

a. Online undergraduate application indicating application as a 2+2 student;
b. Proof of English language proficiency commensurate with Penn State IELTS or TOEFL Undergraduate Admission requirements;
c. Official academic record of course work and transcripts; and
d. Secondary school record: Certified copies of the marks certificates from Grades X and XII.

The application fee will be waived; provided, however, that to receive the fee waiver, the applicant must contact Penn State Harrisburg's Admission Office prior to submission of their application.

2.6 Admission. Nominated NitteDU students that meet the admission requirements will receive an offer of acceptance into the Program from Penn State by December 15. After an offer of admission is made, the office for International Student and Scholar Advising ("ISSA") will contact the student with instructions on the financial guarantee requirements and the procedure to apply for an I-20 (the document necessary to apply for a visa).

Once students have completed their last semester at NitteDU they will send their final transcript to the Penn State Admissions Office. Penn State must receive the acceptance of admission and the complete financial guarantee no later than March 15. If students do not

meet the program requirements by the end of their final semester at NitteDU, Penn State's offer of admission will be withdrawn.

2.7 Full-time Status. Students must maintain full-time status with a minimum of 12 credits of coursework each semester at Penn State. During their last semester at Penn State, students are allowed to have a reduced course load, but this must be approved by ISSA in advance. Students may require more than four semesters to complete Penn State Harrisburg's requirements, depending on academic progress. Students may extend their stay at Penn State for a semester to finalize all course requirements. They must make the decision to extend for a semester in coordination with their academic adviser and ISSA in the fourth semester at Penn State (the semester in which their immigration documents expire).

SECTION 3. PROGRAM IMPLEMENTATION

3.1 Administration. The Program will be administered by the Office of Admissions and Enrollment Management at Penn State Harrisburg, and by the Office of Admissions at NitteDU.

3.2 Credit Transfer. The Penn State Office of Undergraduate Admissions will transfer credits from NitteDU to Penn State. NitteDU courses, evaluated as equivalent to Penn State courses or approved as general credit within a discipline, and transferred with grades of C or higher, will be added to the student's Penn State academic transcript. Program-to-program transfer guides outlining the specific course equivalencies and approved substitutions for each academic program are included in this Agreement. The guides were developed in consultation with NitteDU and Penn State disciplinary faculty and were subsequently approved by Penn State Harrisburg Vice Chancellor for Academic Affairs. Transferability of courses not specified in the attached guides will be reviewed by Penn State on a case-by-case basis and according to the evaluations maintained by the University Undergraduate Admissions transfer equivalency tables recorded in the student information system.

Curriculum transfer guides in effect at the time a student first enrolls at NitteDU will be honored for students who complete a set of required courses and successfully transfer to Penn State Harrisburg within five (5) years of their first enrollment at NitteDU. Credit evaluation for other prior learning activity and credit by portfolio will be assessed according to Penn State policy and through the process established by Penn State Harrisburg.

Participants may only apply for the Penn State academic programs and campuses specified in this MOA. Participants who apply for other Penn State academic programs or campuses shall be evaluated in a case-by-case review.

3.3 Student Advising. Penn State Harrisburg and NitteDU will maintain course equivalency information on their respective websites, and admissions and course articulation information will be made available to students through the transfer advising services at NitteDU.

Penn State Harrisburg will offer an academic orientation to transferring students for the purpose of providing academic advising and orientation to academic and technology resources, student life and career services, and financial aid and billing information.

3.4 Housing. Program participants will have access to on-campus accommodations subject to availability. Resource information for on-campus and off-campus housing is available at https://harrisburg.psu.edu/housing. Each individual student is responsible for making their own housing arrangements.

3.5 Health Insurance. While at Penn State, NitteDU students who are on F-1 or J-1 visas must either purchase health insurance through Penn State's Student Health Insurance Plan ("SHIP") or apply for and be granted a waiver by providing evidence (in English) of current health insurance coverage that meets Penn State's insurance standards. NitteDU students who are not granted a waiver will be automatically enrolled in and charged for the Penn State SHIP.

3.6 Expenses/Tuition. NitteDU students are responsible for the payment of Penn State tuition and all required fees; all accommodation expenses; travel expenses; medical insurance; food; textbooks; clothing; personal expenses; costs for passports, visas, visa extensions, or residency permits; and all other debts and incidental expenses incurred during the course of or for the purpose of their study at Penn State.

3.7 Student Conduct and Compliance. While at Penn State, NitteDU students will be regularly enrolled degree-seeking students subject to all applicable laws, regulations, policies, and guidelines of Penn State, the Commonwealth of Pennsylvania, and the United States of America. They will be granted the same access to Penn State services and facilities as that which is given to any similarly situated individuals, as permitted under applicable Penn State policies and procedures.

3.8 Program Evaluation. The Parties agree to review this Agreement and relevant transfer course equivalencies annually, and each Party will assign an individual to serve as liaison for the purpose of monitoring this Agreement. Each Party's liaison will notify the other Party's liaison of any modifications to curriculum that could impact the articulation of equivalent courses or the requirements of applicable programs.

SECTION 4. GENERAL PROVISIONS

4.1 Force Majeure. Neither Penn State nor NitteDU shall be held liable if the safe or effective operation of the Program is prevented by conditions beyond its control including, but not limited to, Acts of God, natural disasters, epidemics/pandemics, government restrictions, wars, acts of terrorism, insurrections, and/or any other cause beyond the reasonable control.

4.2 Marketing and Promotional Materials.

4.2.1 Each Party acknowledges that the other Party may own numerous names, trademarks, service marks, and logos (the "Marks"). Each Party grants the other Party permission to use designated Marks for promotional purposes (including but not limited to website postings, public announcements and print materials) relating to the Program subject to the further terms of this Section 4.2.

4.2.2 Each Party agrees to submit Program promotional materials to the other for review prior to the intended use. Each Party will provide the other with a contact email for the review process, and to obtain Mark artwork and any necessary guidelines pertaining to its use. Any translations of the other Party's promotional materials must be approved by such Party in writing in such Party's sole and absolute discretion. If the promotional materials are translated, the Parties agree to provide an English translation of their promotional materials for the review process.

4.2.3 Each Party agrees that its use of the other Party's Marks will portray the other Party in a positive manner.

4.2.4 Each Party agrees to discontinue use of the other's Marks immediately upon receipt of a written request or upon termination or expiration of this agreement.

4.2.5 Neither Party shall claim ownership to the other Party's Marks, nor impugn, challenge, or assist in any challenge to the validity of the other Party's Marks or ownership thereof. Neither Party shall use the Marks of the other Party in advertising, publicity, promotional, or any other activities or context unrelated to the Program without the express written consent of the other Party in each case.

4.3 Nondiscrimination. Penn State is committed to equal access to programs, facilities, admission and employment for all persons, including without limitation, equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as more fully set forth in applicable Penn State policies. Subject to applicable law, the Parties shall abide by the foregoing principles of nondiscrimination and equal access in the administration of all programs and agreements described in this Agreement, and neither Party shall impose criteria on any scholars, faculty, students or staff which would violate these principles of nondiscrimination. Nothing herein shall be deemed to create any obligation for either Party to violate any applicable law, statute, code or guideline in order to provide such access.

4.4 Intellectual Property Rights. While enrolled at Penn State, Program students are subject to Penn State's policies governing intellectual property (see https://www.research.psu.edu/otm/student_IP). To the extent permitted by law, the Parties may engage in joint research, conference participation, publication of research results, and other research-related activity; however, such activities are beyond the scope of this Agreement, and require a separate written agreement between the Parties.

4.5 Export Control. The Parties hereby acknowledge that performance and obligations hereunder may be subject to United States export laws, and, to the extent such controls are applicable, performance of some desired activities under this Agreement may be delayed, restricted or prohibited. Neither Party shall have any obligation to obtain clearances to perform any function, activity, effort, proposal or program which is deemed by such Party to be restricted by United States export law, and any refusal to perform such function, activity, effort, proposal or program as a result of a decision not to obtain necessary clearances shall not constitute a breach of this Agreement.

4.6 Execution; Counterparts. This agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed to be one and the same agreement or document. Signatures and signed copies of this agreement transmitted by facsimile, email or other means of electronic transmission shall constitute effective execution and be deemed to have the same legal force and effect as delivery of an original executed copy of this agreement for all purposes.

4.7 Entire Agreement. This agreement, together with all appendices, schedules, exhibits, and appendices hereto, constitutes the entire agreement between the Parties regarding the subject matter herein. It supersedes any prior agreements or understandings between the Parties regarding the subject matter herein.

4.8 Term, Amendments, Termination.

4.8.1 This agreement will become effective on the date of the last signature, and remain in effect for five (5) years. Either Party may terminate this Agreement by providing the other Party with written notice submitted at least 180 days in advance of the proposed termination date.

4.8.2 This Agreement may only be amended in writing signed by authorized representatives of both Parties. The relevant transfer course equivalencies for specific courses or program articulation may be updated as part of the annual reviews described in Section 3.8 without requiring a formal written amendment to this Agreement pursuant to this Section 4.8.2.

4.8.3 In the event this agreement is terminated or expires, curriculum transfer guides in effect at the time a student first enrolls at NitteDU will be honored for those students who complete an applicable program and successfully transfer to Penn State within five (5) years of their first enrollment at NitteDU.

[SIGNATURES APPEAR ON NEXT PAGE]

IN WITNESS WHEREOF, the parties hereto have offered their signatures:

THE PENNSYLVANIA STATE UNIVERSITY		**NITTE (DEEMED TO BE UNIVERSITY)**	
David M Callejo Perez (Feb 15, 2024 11:00 EST)	15-Feb-2024		19-Feb-2024
David M. Callejo Perez Interim Chancellor and Dean, Penn State Harrisburg	Date	N. Vinaya Hedge Chancellor, NITTE	Date
Margo DelliCarpini (Feb 15, 2024 12:21 EST)	15-Feb-2024		19-Feb-2024
Margo E. DelliCarpini Vice President for Commonwealth Campuses and Executive Chancellor	Date	M. S. Moodithaya Vice Chancellor, NITTE	Date
Roger Brindley (Feb 16, 2024 11:55 EST)	16-Feb-2024		
Roger Brindley Vice Provost for Penn State Global	Date		
	15-Feb-2024		
Jeff Adams Interim Vice Provost and Dean for Undergraduate Education	Date		
Richard D. Elmore (Feb 16, 2024 12:39 EST)	16-Feb-2024		
Richard D. Elmore Chief Procurement Officer	Date		

Appendix 1: Tables of Core and Major Specific Courses to be completed at NMAMIT

1. NMAMIT Bachelor of Computer Science (B.Tech CS) Program to the PSU Bachelor of Science in Computer Science (COMP_BS)

https://bulletins.psu.edu/undergraduate/colleges/capital/computer-science-bs/

NMAMIT Number	Subject	NMAMIT Credits	PSU Course Equivalent	PSU Credits
CS1004-1	Introduction to C Programming	3	CMPSC 131: Introduction to Prog. Techniques	3
CS1005-1	Introduction to Python Programming	3	CMPSC 132: Programming and Computation II: Data Structures	3
CS2001-1	Data Structures	4	CMPSC 221: OOP with Web	3
CS2002-1	Object Oriented Programming	4	Based Applications	
CS1102-1	Front End Web Development	3		
CS2101-1	Computer Organization & Architecture	3	CMPSC 312: Computer Organization and	3
CS3005-1	Microcontroller and embedded systems	4	Architecture	
IS1603-1	UNIX and Shell Programming	3	CMPSC 300/400 Technical Elective	3
MA1007-1	Discrete Mathematics & Transform Techniques	4	CMPSC 360: Discrete Mathematics	3
EC1002-1	Applied Digital Logic Design	3	CMPSC 1xx	5
MA1009-1	Engineering Mathematics-I	4	MATH 140: Calc with Analytical Geometry I	4
MA1010-1	Engineering Mathematics – II	4	MATH 141: Calc with Analytical Geometry II	4
MA2011-1	Engineering Mathematics- III	3	MATH/STAT 318: Elementary	
MA2001-1	Statistics and Probability Theory	3	Probability MATH 220: Matrices	3
MA2012-1	Engineering Mathematics- IV	3		2
CV1003-1	Elements of Civil Engineering and Engineering Mechanics	4	PHYS 211: General Physics: Mechanics	4

PH1004-1 PH1002-1	Quantum Computing and Modern Physics Engineering Physics III	4 2	GN credits	3.5
HU1501-1 HU1508-1	Elements of Yoga Principles of Physical Education	3 3	Health and Wellness – GHW	3
HU1509-1 HU1510-1	Indian Culture-Yakshagana Indian Culture-Music	3 3	Art – GA	4.5
HU1506-1 HU1511-1 MG1507-1 HU1512-1 or (HU1001-1 and HU2002-1) MA	Overview of Indian Culture Engineering Ethics Engineering Economics & Financial Management Art of Communication and Interpersonal Skills (Technical English and Enhancing Self-Competence)	3 3 3 3 or (2 and 2)	Humanities – GH ENGR 320Y Design for Global Society GS/US/IL GS/Interdomain	3 3 3
Total Credits	**NMAMIT**	**84-85**	**PSU**	**60**

2. NMAMIT Bachelor of Electrical and Electronical Engineering (B.Tech EE) Program to the PSU Bachelor of Science in Electrical Engineering Technology (EET_BS)

General Option in Electrical Engineering Technology.
https://bulletins.psu.edu/undergraduate/colleges/capital/electrical-engineering-technology-bs/

NMAMIT Number	Subject	NMAMIT Credits	PSU Course Equivalent	PSU Credits
MA1009-1 MA1010-1	Engineering Mathematics-I Engineering Mathematics - II	4 1.33/4	MATH 140: Calc with Analytical Geometry-I	4

CY1001-1 ME1003 BT1651	Engineering Chemistry Elements of Mechanical EngineeringBiology for Engineers	4 + 0.66/3 0.67/1	CHEM 110: Chemical Principles & CHEM111: Experimental Chemistry	3+1
CV1003-1 ME 1003	Elements of Civil Engineering and Engineering Mechanics Elements of Mechanical Engineering	4 1.34/3	PHYS211: General Physics: Mechanics	4
HU1508-1 HU1501-1	Principles of Physical Education Elements of Yoga	3 3	Health and Wellness	3
CS1001-1	Problem Solving through Programming	4	CMPSC 131: Programming and Computation I: Fundamentals	3
MA1010-1 MA2011	Engineering Mathematics – II Engineering Mathematics-III	2.66/4 2.66/4	MATH 141: Calc with Analytical Geometry II	4
ME1008-1	Computer Aided Engineering Graphics & Practice	3	EEGT 119: Introduction to CAD for Electrical and Computer Engineering	2
PH1001-1 EE 1001	Engineering Physics Basic Electrical Engineering	4 1.34/4	PHYS 212: General Physics-Electricity and Magnetism	4
HU1510-1 HU1506-1 HU1509	Indian Culture-Music Overview of Indian Culture	3 2.00/3 3	Art – GA Humanities GH	3 3

	Indian Culture- Yakshagana			
HU1511-1 HU1007-1	Engineering Ethics Social Connect & Responsibility	3 1	ENGR 320Y Design for Global Society GS	3
EC1003-1 EC 1002-1	Digital Logic Design Applied Digital Logic Design	3 2.33/3	CMPEN271: Introduction to Digital Systems + CMPEN275: Digital Design Laboratory	3+1
MG1507-1 MG1002-1	Engineering Economics Financial Management	3 1/3	Social and Behavioral Science GS	3
MA2011-1 MA1004-1	Engineering Mathematics- III Discrete Mathematics & Numerical Methods I	1.33/4 3	MATH Elective	3
MA1003-1+ MA2012-1 MA2013-1	Differential Equations and Laplace Transform Engineering Mathematics-IV Engineering Mathematics V	3 3 2/4	SET Electives	6
	Any other transfer credits	8	General Elective – Needed to meet minimum program requirements of 128 credits (includes extra credits from CS1001-1 & MA2013-4)	11
Total Credits	**NMAMIT**	**85.33**	**PSU**	**64**

Assumes that the student receives credit toward one Interdomain requirement in addition to IL.

3. NMAMIT Bachelor of Electrical and Electronical Engineering (B.Tech EE) Program to the PSU Bachelor of Science in Electrical Engineering (EENG_BS)

https://bulletins.psu.edu/undergraduate/colleges/capital/electrical-engineering-bs/

NMAMIT Number	Subject	NMAMIT Credits	PSU Course Equivalent	PSU Credits

CY1001-1 ME1003 BT1651	Engineering Chemistry Elements of Mechanical Engineering Biology for Engineers	4 + 0.66/3 0.67/1	CHEM 110: Chemical Principles & CHEM111: Experimental Chemistry	3+1
MA1009-1 MA1010-1	Engineering Mathematics-I Engineering Mathematics - II	4 1.33/4	MATH 140: Calc with Analytical Geometry-I	4
CV1003-1 ME 1003	Elements of Civil Engineering and Engineering Mechanics Elements of Mechanical Engineering	4 1.34/3	PHYS211: General Physics: Mechanics	4
HU1508-1 HU1501-1	Principles of Physical Education Elements of Yoga	3 3	Health and Wellness	3
CS1001-1	Problem Solving through Programming	4	CMPSC 131: Programming and Computation I: Fundamentals	3
MA1010-1 MA2011	Engineering Mathematics – II Engineering Mathematics-III	2.66/4 2.66/4	MATH 141: Calc with Analytical Geometry II	4
ME1008-1 EE 1001	Computer Aided Engineering Graphics & Practice Basic Electrical Engineering	3 1/4	EDSGN100: Introduction to Engineering Design	3
PH1001-1 EE 1001	Engineering Physics Basic Electrical Engineering	4 1.34/4	PHYS 212: General Physics-Electricity and Magnetism	4
HU1510-1 HU1506-1	Indian Culture-Music	3 2.00/3	Art – GA	3

HU1509	Overview of Indian Culture Indian Culture-Yakshagana	3	Humanities GH	3
HU1511-1 HU1007-1	Engineering Ethics Social Connect & Responsibility	3 1	ENGR 320Y Design for Global Society GS	3
EC1003-1 EC 1002-1	Digital Logic Design Applied Digital Logic Design	3 2.33/3	CMPEN271: Introduction to Digital Systems + CMPEN275: Digital Design Laboratory	3+1
MG1507-1 MG1002-1	Engineering Economics Financial Management	3 1/3	Social and Behavioral Science GS	3
MA2012-1	Engineering Mathematics-IV	3	MATH 220: Matrices	2
MA1003-1 + MA1004-1	Differential Equations and Laplace Transform + Discrete Mathematics & Numerical Methods I	3 + 1/3	MATH 250: Ordinary Differential Equations	3
MA2013-1 MA2011-1	Engineering Mathematics V Engineering Mathematics-III	4 1.33/4	MATH 230: Calculus and Vector Analysis	4
CV1004-1 ME1003-1	Statics Elements of Mechanical Engineering	3 1/3	EMCH 211: Statics	3
MA2001-1 MA 1004-1	Statistics and Probability Theory Discrete Mathematics & Numerical Methods I	3 1/3	STAT 318: Elementary Probability	3
ME1105-1 EE 1001	Fluid Mechanics Basic Electrical Engine	2 0.67/4	PHYS213: General Physics: Fluids and Thermal Physics	2
PH1002-1	Engineering Physics III	2	PHYS 214:	2

EE 1001	Basic Electrical Engine	0.67/4	General Physics: Wave Motion & Quantum Physics	
Total Credits	**NMAMIT**	**93**	**PSU**	**64**

4. NMAMIT Bachelor of Mechanical Engineering (B.Tech ME) Program to the PSU Bachelor of Science in Mechanical Engineering (MECA_BS)

https://harrisburg.psu.edu/science-engineering-technology/mechanical-engineering-bs

NMAMIT Number	Subject	NMAMIT Credits	PSU Course Equivalent	PSU Credits
MA1009-1 MA1010-1	Engineering Mathematics-I Engineering Mathematics - II	4 1.33/4	MATH 140: Calc with Analytical Geometry-I	4
CY1001-1 ME1003 BT1651	Engineering Chemistry Elements of Mechanical Engineering Biology for Engineers	4 + 0.66/3 0.67/1	CHEM 110 Chemical Principles CHEM 111: Experimental Chemistry	3+1
CV1003-1 ME 1003	Elements of Civil Engineering and Engineering Mechanics Elements of Mechanical Engineering	4 1.34/3	PHYS211: General Physics: Mechanics	4
ME1008-1 EE 1001	Computer Aided Engineering Graphics & Practice Basic Electrical Engineering	3 1/4	EDSGN100: Introduction to Engineering Design	3
HU1508-1	Principles of Physical Education	3	Health and Wellness	2.25
HU1510-1 HU1506-1 HU1509	Indian Culture-Music Overview of Indian Culture Indian Culture-Yakshagana	3 2.00/3 3	Art – GA Humanities GH	3 3

MA1010-1 MA2011	Engineering Mathematics – II Engineering Mathematics-III	2.66/4 2.66/4	MATH 141: Calc with Analytical Geometry II	4
PH1001-1 EE 1001	Engineering Physics Basic Electrical Engineering	4 1.34/4	PHYS 212: General Physics-Electricity and Magnetism	4
HU1510-1HU1506-1 HU1509	Indian Culture-Music Overview of Indian Culture Indian Culture-Yakshagana	3 2.00/3 3	Art – GA Humanities GH	3 3
MG1507-1MG1002-1	Engineering Economics Financial Management	3 1/3	Social and Behavioral Science GS	3
EE2106-1 CS1001-1	Programming for Engineers with MATLAB Problem solving through Programming	3 1/4	CMPSC 200: Programming and Computation I: Fundamentals	3
CV1004-1ME1003-1	Statics Elements of Mechanical Engineering	3 1/3	EMCH 211: Statics	3
ME1104-1 CS1001-1	Thermal Engineering Problem Solving through Programming	3 1/4	ME 300: Engineering Thermodynamics I	3
HU1508-1 HU1501-1	Principles of Physical Education Elements of Yoga	3 1/3	Health and Wellness GHW	3
MA2012-1	Matrices	3	MATH 220: Matrices	2.25
CV1006-1 CS1001-1	Study Of Dynamics* Problem Solving through Programming	3 1/3	EMCH 212: Dynamics	3

ME1102-1 CS1001-1	Mechanics of Materials* Problem Solving through Programming	3 1/3	EMCH 213: Strength of Materials	3
EE2105-1 EE 1001	Electric Circuits and Power Distribution Basic Electrical Engineering	3 1/4	EE 211: Electric Circuits and Power Distribution	3
MA2011-1 MA1004-1	Engineering Mathematics III Discrete Mathematics & Numerical Methods I	4 1/3	MATH 251: Differential Equations	4
HU1511-1 HU1007-1	Engineering Ethics* Social Connect & Responsibility	3 1/3	ENGR 320Y: Design for a Global Society GS	3
PH1002-1 EE1001	Engineering Physics III Basic Electrical Engineering	2 0.67/4	PHYS 214: General Physics: Wave Motion & Quantum Physics	2
Total Credits	**NMAMIT**	**72**	**PSU**	**61**

5. NMAMIT Bachelor of Mechanical Engineering (B.Tech ME) Program to the PSU Bachelor of Science in Mechanical Engineering Technology (MET_BS)

https://harrisburg.psu.edu/science-engineering-technology/mechanical-engineering- technology-bs

NMAMIT Number	Subject	NMAMIT Credits	PSU Course Equivalent	PSU Credits
MA1009-1 MA1010-1	Engineering Mathematics-I Engineering Mathematics - II	4 1.33/4	MATH 140: Calc with Analytical Geometry I	4
CY1001-1 ME1003	Engineering Chemistry Elements of Mechanical Engineering	4 + 0.66/3	CHEM 110: Chemical Principles & CHEM111:	3+1

BT1651	Biology for Engineers	0.67/1	Experimental Chemistry	
CV1003-1 ME 1003	Elements of Civil Engineering and Engineering Mechanics Elements of Mechanical Engineering	4 1.34/3	PHYS 211: General Physics: Mechanics	4
ME1008-1 EE 1001	Computer Aided Engineering Graphics & Practice Basic Electrical Engineering	3 1/4	EDSGN 100: Introduction to Engineering Design	3
HU1510-1HU1506-1 HU1509	Indian Culture-Music Overview of Indian Culture Indian Culture-Yakshagana	3 2.00/3 3	Art – GA Humanities GH	3 3
MA1010-1 MA2011	Engineering Mathematics – II Engineering Mathematics-III	2.66/4 2.66/4	MATH 141: Calc with Analytical Geometry II	4
PH1001-1 EE 1001	Engineering Physics Basic Electrical Engineering	4 1.34/4	PHYS 212: General Physics: Electricity and Magnetism	4
MG1507-1MG1002-1	Engineering Economics Financial Management	3 1/3	Social and Behavioral Science GS	3
EE2106-1 CS1001-1	Programming for Engineers with MATLAB Problem Solving through Programming	3 1/4	CMPSC 200: Department-approved elective	3
CV1004-1 ME1003-1	Statics Elements of Mechanical Engineering	3 1/3	EMCH 211: Statics	3
ME1104-1	Thermal Engineering	3	ME 300: Engineering	3

CS1001-1	Problem Solving through Programming	1/4	Thermodynamics I	
HU1508-1 HU1501-1	Principles of Physical Education Elements of Yoga	3 3	Health and Wellness GHW	3
MA2012-1	Matrices	3	MATH 220: Matrices	2
CV1006-1 CS1001-1	Study Of Dynamics* Problem Solving through Programming	3 1/3	EMCH 212: Dynamics	3
ME1102-1 CS1001-1	Mechanics of Materials* Problem Solving through Programming	3 1/3	EMCH 213: Strength of Materials	3
EE2105-1 EE 1001-1	Electric Circuits and Power Distribution Basic Electrical Engineering	3 1.34/4	EE 211: Electric Circuits and Power Distribution	3
MA2011-1 ME 1003-1	Engineering Mathematics III Differential Equations and Laplace Transform	4 1.34/3	MATH 251: Department-approved Elective	4
HU1511-1 HU1007-1	Engineering Ethics Social Connect & Responsibility	3 1	ENGR 320Y: Design for a Global Society	3
Total Credits	**NMAMIT**	**68**	**PSU**	**68**

Appendix 2: Suggested Academic Plan for the Third and Fourth Years of Study at the Pennsylvania State University - Harrisburg

1. Bachelor of Science in Computer Science (COMP_BS)

Courses to be completed at Penn State with suggested sequencing by semester, beginning with the Fall semester.

PSU Course	Title	Credits	Semester
ENGL 015S or 030S	Composition	3	5
CAS 100	Effective Speech	3	5
CMPSC 330*	Advanced Programming in C++	3	5
CMPSC 469	Formal Languages with Applications	3	5
	Interdomain and US	3	5
ENGL 202C	Technical Writing GWS	3	6
CMPSC 430	Database Design	3	6
CMPSC 462	Data Structures	3	6
	General Education Course (GN/GA/GH/GS)	3	6
	Open Electives 300-400 level	3	6
CMPSC 463	Des. and Analysis of Algorithms	3	7
CMPSC 472	Operating System Concepts	3	7
CMPSC 487W	Software Eng. and Design	3	7
	CMPSC technical elective	3	7
	CMPSC/MATH technical elective	3	7
CMPSC 460	Princ. of Prog. Languages	3	8
CMPSC 470	Compiler Construction	3	8
CMPSC 488	Computer Science Project	3	8
	CMPSC technical elective	3	8
	CMPSC/MATH technical elective	3	8
Total Credits		**PSU**	**60 credits**

*C-required course

Note: Students must earn a 2.5 or higher grade point average in the following courses: CMPSC 330, 360, 430, 460, 462, 463, 469, 470, 472, 487W, and 488.

2. Bachelor of Science in Electrical Engineering Technology (EET_BS)

Courses to be completed at Penn State with suggested sequencing by semester, beginning with the fall semester.

Course	Title	Credits	Semester
ENGL 15	Rhetoric & Composition	3	5
EET 310*	Direct and Alternative Current Circuit	5	5
CMPEH 472	Microprocessors	4	5
CAS 100	Effective Speech	3	5
ENGL 202C	Effective Writing: Technical Writing	3	6
EE 310	Electronic Circuit Design I	4	6
EET 312*	Electric Transients	4	6
EET 331 *	Electronic Design	4	6
EET 419	Project Proposal Preparation	1	7
	Electronics Elective	4	7
	System Elective	4	7
	GEET Technical Elective	4	7
One GA & one GH	General Education Selection to include Interdomain & US Cultures	6	7
EET 420W *	Electrical Design Project	3	8
	System Elective	4	8
	GEET Technical Elective	4	8
EE 485	Energy Systems and Conversion	3	8
Total Credits	**PSU**	**64**	

*C-required Course

3. Bachelor of Science in Electrical Engineering (EENG_BS)

Courses to be completed at Penn State with suggested sequencing by semester, beginning with the fall semester.

PSU Course	Title	Credits	PSU Semester
EE 210 *	Circuits and Devices	4	5
EE 341	Semiconductor Device Principles	3	5
CMPEH 472	Microprocessors	4	5
ENGL 15	Rhetoric and Composition	3	5
CAS 100	Effective Speech	3	5
EE 310 *	Electronic Circuit Design I	4	6
EE 317 *	Circuits II and Data Acquisition	2	6
EE 352 *	Signals and Systems: Continuous and Discrete-Time	4	6
EE 330	Engineering Electromagnetics	4	6
EE 485	Energy Systems and Conversion	3	6
EE 311	Electronic Circuit Design II	3	7
EE 405	Capstone Proposal Preparation	1	7
EE 461	Electronic Communications I	4	7
EE 481	Control Systems	4	7
	Technical Elective-I	3	7
ENGL 202C	Effective Writing: Technical Writing	3	7
EE 406W *	Electrical Engineering Capstone Design	3	8
	Technical Elective-II	3	8
	Technical Elective-III	3	8
	Technical Elective-IV	2-3	8
One GA & one GH	General Education Selection to include Interdomain & US Cultures	6	8

SSET 295	Internship	1	8
Total Credits	**PSU**	**70-71 credits**	

*C-Required Course

4. Bachelor of Science in Mechanical Engineering (MECA_BS)

Courses to be completed at Penn State with suggested sequencing by semester.

PSU Course	Title	Credits	Semester
ENGL 15	Rhetoric and Composition	3	5
MATH 230	Calculus and Vector Analysis	4	5
MATSE 259*	Properties and Processing of Engineering Materials	3	5
ME 349*	Intermediate Mechanics of Materials	3	5
ME 365*	Materials Testing Laboratory	1	5
ME 380*	Machine Dynamics	3	5
ENGL 202C	Effective Writing: Technical Writing	3	6
ME 320*	Fluid Flow	3	6
ME 345W	Instrumentation, Measurements, and Statistics	4	6
ME 367	Machine Design	3	6
CAS 100	Effective Speech	3	6
ENGR 320Y GS	Design for a Global Society	3	7
ME 410	Heat Transfer	3	7
ME 448	Engineering Design Concepts	3	7
ME 468	Engineering for Manufacturing	3	7
ME 308 OR ME 465	Fluid Flow and Heat Transfer Laboratory OR Introduction to Manufacturing Laboratory	1	7
4XX Engineering Elective	Engineering elective	3	7
ME 357	System Dynamics	3	6
ME 449	Mechanical Design Projects	3	8
4XX Engineering Elective	Engineering elective	3	8
4XX Engineering Elective	Engineering elective	3	8
4XX Engineering Elective	Engineering elective	3	8

Total Credits	**PSU**	**64 credits**	

*C-required course

The BS MECA program has 64 credits to be taken at Penn State Harrisburg in the 3rd and 4th years. The number of credits for the first two years at NMAMIT are 67 or 68 since NMAMIT course Engineering Mathematics IV MA 2012-1 is 3 credits while its Penn State equivalent is only 2 credits (MATH 220).

5. Bachelor of Science in Mechanical Engineering Technology (MET_BS)

Courses to be completed at Penn State with suggested sequencing by semester.

PSU Course	Title	Credits	Semester
ENGL 15	Rhetoric and Composition	3	5
IET 308	Statistical Quality Control	3	5
IET 321	Manufacturing Processes	3	5
IET 311	Elements of Metallurgy	3	5
MET 336*	Engineering Fluid Mechanics	3	5
MET 338	Thermal Fluids Laboratory	1	5
MET 370	Engineering Materials Laboratory	1	5
ENGL 202C	Effective Writing: Technical Writing	3	6
MET 321	Analytical Techniques	2	6
MET 358	Process Design Engineering	3	6
MET 365	Design of Machine Elements	3	6
MET 438	Thermal Engineering B	3	6
Technical elective	300/400 technical elective	3	6
CAS 100	Effective Speech	3	7
MET 341*	Mechanical Measurements and Instrumentation	3	7
MET 454	Automatic Controls	3	7
MET 458	Controls Laboratory	1	7
MET 481	Project Design	3	7
Technical elective	300/400 technical elective	3	7
MET 431*	Heat Transfer	3	8
MET 486	Project Design	3	8
Technical elective	300/400 Technical elective	3	8
Technical elective	300/400 Technical elective	3	8
Total Credits	**PSU**	**62 credits**	

*C-required course

The BS MET program requires the completion of a minimum of 128 credits. The associated first-two-years of the program plan shows 68 credits to be completed before transfer to Penn State Harrisburg. The resulting total of 68 + 62 credits exceeds the minimum because the program requires six credits of physics, but the two required courses are four credits each.