



MEMORANDUM OF AGREEMENT

between

University of Massachusetts Lowell

and

Tamkang University

This Memorandum of Agreement (hereafter referred to as "MOA") is made and entered into on this 8th day of November 2025 by and between the University of Massachusetts Lowell (UMass Lowell), having its principal address at 220 Pawtucket Street, Suite 420, Lowell, MA 01854 and Tamkang University, having its principal address at 151, Yingzhuan Road, Tamsui Dist., New Taipei City, Taiwan (TKU).

The parties above are referred to collectively as Parties or each individually as a Party.

PREAMBLE

WHEREAS, the Parties hereto enter into a certain MOA, dated as of the 8th day of November 2025, to set forth the basic understanding and the purpose and intent of the "Parties" for facilitating of global mobility for outstanding candidates from both institutions to study at the partner institution which shall be binding in accordance with the definite terms and conditions, and the respective rights and obligations as set forth under this MOA below;

WHEREAS, both Parties wish to make available to each other the full breadth of their administrative resources and services in order to ensure that the MOA is fully operational;

NOW THEREFORE, in consideration of the foregoing premises and the mutual covenants and agreements herein provided, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I:

UMass Lowell will admit qualified students from Tamkang University into its BS in General Chemistry program. Students who take advantage of this opportunity will earn a bachelor's degree from UMass Lowell.

Tamkang University will admit qualified students from UMass Lowell into its BS in General Chemistry program. Students who take advantage of this opportunity will earn a bachelor's degree from Tamkang University.

ARTICLE II: EDUCATIONAL PROGRAM(S)

The following academic programs are the core of this Agreement: General Chemistry at UMass Lowell and Chemistry at Tamkang University. Should additional pathways be established in the future, an addendum will be created.

The pathway program thereby allows students at Tamkang University and UMass Lowell to start their undergraduate career at their home institution and complete the rest of their program at the Host Institution. The program curriculum and credits are outlined in Appendix A.

To be eligible for this pathway program, students must meet the admission requirements set forth by both Parties. Admission and enrollment procedures are listed in Appendix B.

The financial responsibilities of the students are listed in Appendix C.

The Parties agree that based on the acknowledgement of credit transfer UMass Lowell will award bachelor's degrees to transfer students from Tamkang University who meet UMass Lowell's graduation requirements, and Tamkang University will award bachelor's degree to transfer students from UMass Lowell if they meet Tamkang University's graduation requirements.

ARTICLE III: ENTRY QUOTA

There is no limit on the number of students who can enter the pathway program each year. However, the Parties may expand or decrease the number of students based on the mutual agreement.

ARTICLE IV: OBLIGATIONS OF EACH PARTY

The Parties may consult and support each other on any necessary issues during the implementation of the pathway program. The areas where the Parties may support each other are as follows:

1. Both Parties shall support the promotion of the opportunity to students at the partner institution by providing brochures, marketing materials, etc.
2. The Host University shall provide information to admitted students about the cost of the tuition and fees, scholarship (if applicable) and enrollment process in the health insurance plan sponsored by the Host university.
3. The Host University will provide orientation for incoming students explaining the U.S. rules and regulations, relevant policies at the Home campus, etc. Students enrolling at the Host University are subject to the policies and code of conduct of the Host institution.
4. The Home University shall execute the curriculum composition of the pathway program, promotional activities, student recruitment, curriculum management, language education in line with the Host University's guidance. The Home university shall encourage students interested in the pathway program to enroll in language courses to enhance their language proficiency and meet the admission requirements of the Host University.
5. Both Parties shall nominate a staff member who will serve as a primary coordinator for this Agreement.

Article V. RENEWAL, TERMINATION and AMENDMENT

This MOA becomes effective on the date it is signed by both Parties. It may be amended, in writing, by agreement of the Parties. It is valid for five (5) years with a review scheduled two years from the effective date. The agreement may be renewed for five (5) additional one (1) year terms. Either Party may terminate this MOA provided written notification of the termination is given to the other party ninety (90) days prior to the desired termination date.

In the event of the termination of the MOA, it shall not affect the continuation of the programs that have already commenced until their completion, unless the Parties agree otherwise.

ARTICLE VI: FORCE MAJEURE

Neither Party hereto shall be liable to the other for any failure, delay, or interruption in performing its obligations hereunder due to causes or conditions beyond its control. If, due to force majeure, it becomes impossible to implement the obligations set forth in this Memorandum, it shall be suspended temporarily

until the disadvantages are overcome.

ARTICLE VII: CONFLICT RESOLUTION

Both Parties agree to comply with the obligations enumerated in this Agreement and to try, if possible, to resolve any problems that may arise in the execution of this Memorandum through direct engagement.

ARTICLE VIII: SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused this MOA to be duly executed, each of which shall be deemed as an original counterpart, by their duly authorized representatives of the Parties on the day and year first shown below.

TAMKANG UNIVERSITY

Huan-Chao Keh
Dr. Huan-Chao Keh
President

Date: November 8, 2025

**UNIVERSITY OF MASSACHUSETTS
LOWELL**

Julie Chen
Dr. Julie Chen
Chancellor

Date: November 8, 2025

APPENDIX A

1. The transfer eligibility tables below are based upon evaluation of course descriptions provided by Tamkang University and UMass Lowell.
2. The courses to be taken at UMass Lowell for the program are clearly indicated in this Appendix.
3. Any information on changes to the courses that are listed in the Appendices must be communicated as soon as such change is implemented at either university.
4. Transfer students are subject to all general education requirements of UMass Lowell.

TABLE 1: CURRICULUM PLAN – UMASS LOWELL GENERAL CHEMISTRY- TRANSFER ELIGIBLE COURSES FROM TAMKANG UNIVERSITY

Tamkang University		UMASS Lowell Requirement Fulfilled	
<i>Year 1 – Semester 1</i>	Credits		
CHM 100 General Chemistry	3	CHEM 1210 Chemistry 1	3
CHM 100 General Chemistry Exp.	1	CHEM 1230L Chemistry 1 Lab	1
MTH 100 Calculus 1	3	MATH 1310 – Calculus I	3
<i>Year 1, Semester 2</i>			
CHM 102 General Chemistry 2	3	CHEM 1220 Chemistry II	3
CHM 102L General Chemistry 2 Lab	1	CHEM 1240L Chemistry II Lab	1
MTH 101 Calculus 2	3	MATH 1320 – Calculus II	3
<i>Year 2, Semester 1</i>			
CHM 200 Organic Chemistry	4	CHEM 2210 Organic Chemistry I	3
CHM 200L Organic Chemistry Lab	1	CHEM 2270L Organic Chem Lab IA	2
<i>Year 2 Semester 2</i>			
CHM 201 Organic Chemistry II	4	CHEM 2220 Organic Chemistry IIA	3
CHM 201L Organic Chemistry II L	1	CHEM 2280L Organic Chemistry Lab IIA	2
<i>Year 3 Semester 1</i>			
CHM 020 Physical Chemistry I	4	CHEM 3440 Physical Chemistry I	3
CHM 020L Physical Chemistry I Lab	1	CHEM 3460L Physical Chemistry Lab 1	1
BIO 010 Intro to Biology	3	BIOL 1100 Principles of Biology ! (Free Elective)	3
<i>Year 3 Semester 2</i>			
CHM 021 Physical Chemistry II	4	CHEM 3450 Physical Chemistry II	3

CHM 021L Physical Chemistry II Lab	1	CHEM 3500L Physical Bioinorganic Lab	2
BIO 300 Microbiology	3	BIOL 3010 Microbiology (Free Elective)	3
Total Major Related transferred credits:			39

TABLE 2: CURRICULUM PLAN – UMASS LOWELL GENERAL CHEMISTRY- COURSES TO BE COMPLETED BY PATHWAY PARTICIPANTS AT UMASS LOWELL

Year 1 Semester 1		Year 1 Semester 2	
CHEM 1050 - Intro to Discipline of Chemistry	1	ENGL 1020 College Writing II	3
ENGL 1010 College Writing I	3	CHEM 2600 Information Retrieval	2
MATH 2310 Calculus III	4	CHEM 3140 Analytical Chemistry II	3
CHEM 3130 Analytic Chemistry I	3	CHEM 3160L Analytic Chem II Lab	1
CHEM 3150L Analytic Chemistry I lab	1	MATH 2340 Differential Equations	3
Gen-Ed or elective	3	Gen-Ed or elective	3
Semester Total:	15	Semester Total:	15
Year 2 Semester 1		Year 2 Semester 2	
PHYS 1410 Physics I	3	CHEM 4080 UG Thesis II OR CHEM 3/4XXX Chemistry Elective	3
PHYS 1410 L Physics I Lab	1	CHEM 4030 Intro Polymer Science I	3
CHEM 3600 Responsible Chemist	3	PHYS 1440 Physics II	3
CHEM 4070 UG Thesis I OR CHEM 3/4XXX Chemistry Elective	3-4	PHYS 1440L Physics II Lab	3
Gen-Ed or elective	3	Gen-Ed or elective	3
Semester Total:	13-14	Semester Total:	15
Year 3 Semester 1			
CHEM 4430 Advanced Inorganic Chem	3		
CHEM 4450L Advanced Inorganic Lab	2		
CHEM 4500 Biochemistry I	3		
Gen-Ed or elective	3		
Gen-ed or elective	3		
Semester Total:	14		
Total:	111		

Table 3: OTHER EQUIVALENCIES:

Tamkang University		UMASS Lowell	
			3
BIO 020 Advanced Biology	3	BIOL 1120 Principles of Biology II	3
BIO 025 Molecular Biology	3	BIOL 2990 2000 level biology elective	3
PHY 010 General Physics	3	PHYS 1030 General Physics I	3
PHY 010L General Physics I Lab	1	PHYS 1030L General Physics I Lab	1
CHM 001 Applications of Chemistry	2	CHEM 1990 1000 level Chemistry Elec.	2
CHM 050 Analytical Chemistry	3	CHEM 1990 1000 level Chemistry Elec.	3
CHM 060 Material Chemistry	3	CHEM 1990 1000 level Chemistry Elec.	3
CHM 070 Computer App of Chemistry	3	CHEM 1990 1000 level Chemistry Elec.	3
CMP 010 AI and Programming Lang.	2	COMP 1990 1000 Level Comp. Sci Elec	3
CHN 010 Ability of Expressing in Spoken & Written Chinese	2	WLCH 1990 1000 level World Lang Req	2
TKU 001 Campus and Comm. Service	1	Not eligible for transfer credit	
TKU 002 National Defense Ed.	1	Not eligible for transfer credit	
TKU 003 Explore Sustainability	1	Not eligible for transfer credit	
ENG 001 English I	2	Not eligible for transfer credit	
ENG 002 English II	2	Not eligible for transfer credit	
PED 004 Physical Education I	1	Not eligible for transfer credit	
PED 005 Physical Education II	1	Not eligible for transfer credit	
PED 006 Physical Education III	1	Not eligible for transfer credit	
ENG 003 English Tutorial	2	Not eligible for transfer credit	

NOTES:

- 111 credits are accounted for in the above pathways. 120 credits are required to graduate. The additional credits should come from electives students take while at Tamkang University. It is expected that some of these courses can be combined to fulfill UML General Education Requirements. If students do not transfer in additional 9 credits they will need to be taken at UML.
- Social Science/Humanities elective courses at Tamkang are two credits. The minimum number of credits a course must carry in order to fulfill a requirement is 2.67. The Registrar's Office will make every effort to combine courses in order to maximize the number of requirements fulfilled.
- Students will not be required to obtain the WES Foreign Credential Evaluation

- Students will be required to submit official, translated course descriptions for any course that has not been evaluated as part of the agreement. These courses descriptions will be sent to appropriate departments for evaluation and entered into the UML Transfer Dictionary (<https://www.uml.edu/registrar/transfer/>)
- Tamkang University Course numbers are determined by the UMass Lowell Registrar's Office for entry into the UML Transfer Dictionary.

TABLE 4: CURRICULUMS FOR THE DUAL BACHELOR'S DEGREE PROGRAM: BACHELOR DEGREE IN CHEMISTRY AWARDED BY UML AND BACHELOR DEGREE IN CHEMISTRY AWARDED BY TKU

A minimum of 128 credits must be completed at UML and TKU for the participants in this dual degree program.

TRANSFER-ELIGIBLE COURSES FROM UMASS LOWELL TO TANKANG UNIVERSITY

Courses in TKU			Courses in UML		
No.	Courses	Credits	No.	Courses	Credits
1.	General Chemistry I	3	1.	Chemistry I	3
2.	General Chemistry II	3	2.	Chemistry II	3
3.	General Chemistry Lab I	1	3.	Chemistry Lab I	1
4.	General Chemistry Lab II	1	4.	Chemistry Lab II	1
5.	Calculus	3	5.	Calculus I	4
6.	General Physics	3	6.	Physics I	3
7.	General Physics Lab	1	7.	Physics I Lab	1
8.	Organic Chemistry I	3	8.	Organic Chemistry I	3
9.	Organic Chemistry II	3	9.	Organic Chemistry II	3
10.	Organic Chemistry Lab I	1	10.	Organic Chemistry Lab I	2
11.	Organic Chemistry Lab II	1	11.	Organic Chemistry Lab II	2
12.	Physical Chemistry I	3	12.	Physical Chemistry I	3
13.	Physical Chemistry II	3	13.	Physical Chemistry II	3
14.	Physical Chemistry Lab I	3	14.	Physical Chemistry Lab	2
15.	Physical Chemistry Lab II	2	15.	Physical Bioinorganic Lab	2
16.	Instrumental Analysis I	3	16.	Analytical Chemistry I	3
17.	Instrumental Analysis II	3	17.	Analytical Chemistry II	3
18.	Instrumental Analysis Lab I	1	18.	Analytical Chemistry Lab I	1
19.	Instrumental Analysis Lab II	1	19.	Analytical Chemistry Lab II	1

NOTES: Additional UMass Lowell courses may be reviewed and approved on a case-by-case basis for transfer recognition by Tamkang University.

APPENDIX B: ADMISSION AND ENROLLMENT PROCEDURES

At UMass Lowell:

- A. Eligibility: In order to be eligible for the pathway, students must be in their fourth semester of enrollment in the General Chemistry track at Tamkang University, and in good academic standing.
- B. Students need to submit an admission application as a transfer student to UMass Lowell and submit all required documents to the admission portal. The list of required documents is available online: <https://www.uml.edu/admissions/transfers/transfer-application-package.aspx>
- C. Applicants will be required to submit official, translated course descriptions for any course that has not been evaluated as part of this agreement.
- D. Applications have to be submitted no later than July 25 for a Fall start date and December 12 for a Spring start date.
- E. Test scores must be sent to UMass Lowell directly from the testing company. UML's ETS school code for the SAT, ACT & TOEFL is 3911.
- F. Transcripts and diplomas must be officially attested by a school or government official. We also accept documents that are attested by a notary public.
- G. Transfer applicants should show a minimum GPA of 2.5 for university courses.
- H. Transfer applicants must demonstrate an ability to succeed in Calculus, demonstrated by taking: Trig or Pre Calc at the college level, at least C-.
- I. Transfer applicants must have completed at least one of the following: Biology, Chemistry, or Physics
- J. Language proficiency scores (TOEFL 79 IBT, IELTS 6.5 and Duolingo (110)) are required unless College Writing I & II are completed at a U.S. university or community college. Details about the transfer application process are available at: <https://www.uml.edu/admissions/transfers/>

Admission is not guaranteed.

Upon admission, accepted students shall pay a \$500 non-refundable enrollment deposit and start the I-20 process as instructed by the International Student and Scholars Office (www.uml.edu/issos, Applying for an Initial I-20/DS-2019). The issuance of the student visas falls under the jurisdiction of the U.S.

Department of State.

Accepted students should request on-campus housing by May 1 for Fall semester arrival. Students are not required to reside on campus during their studies.

An advisor will reach out to the student to coordinate class selection for the upcoming semester.

Eligible students pursuing a BS in Chemistry are eligible to apply to the Bachelor-to-Master Program.

At Tamkang University:

Detailed Admission Requirements and Enrollment procedures will be spelled out in an Addendum to this Agreement.

APPENDIX C: FINANCIAL RESPONSIBILITIES OF THE STUDENTS

For students transferring to UMass Lowell from Tamkang University:

Students admitted to the pathway program are required to pay the out-of-state tuition and fees during their stay at UMass Lowell. Students with strong academic records will be automatically considered for merit scholarships available to all transfer students. The scholarship award will be communicated with the admission decision. Applicants with a GPA of 3.0 GPA or higher and a minimum of 12 transferable credits will qualify for a merit scholarship valued between \$13,000 and \$20,000 dollars and renewable annually, provided students maintain a 3.0 GPA.

For students transferring from UMass Lowell to Tamkang University:

Financial responsibilities will be spelled out in an Addendum to this Agreement.