

## **Dual M.Sc. Degree Program in Food Science and Technology**

### **University of Teramo**

M.Sc. Food Science and Technology (International Program)

(Faculty/Department of Bioscience and Technology for Food Agriculture and Environment)

### **Chulalongkorn University**

(M.Sc. Food Science and Technology (International Program),

(Department of Food Technology, Faculty of Science)

#### **1. Field of study**

The field of study of the DDM shall be in the area of Food Science and Technology for the development and reinforcement of scientific collaboration between UNITE and CU.

##### ***1.1. Food Science and Technology, M.Sc. Program, UNITE***

Food Science and Technology, M.Sc. Program is offered in the department/faculty of Bioscience and Technology for Food Agriculture and Environment, University of Teramo. For more than 17 years, M.Sc. graduates from the program have become successful working in both private and government sector in Italy and worldwide. It is International (fully taught in English) from the Academic Year 2016-17. With many international academic and research collaborations, including the DDM in this Agreement, Food Science and Technology, M.Sc. Program will grow together with its partner universities and continue to thrive and succeed in the scientific world.

##### ***1.2. Food Science and Technology, M.Sc. Program, CU***

Food Science and Technology, M.Sc. program is one of the international programs offered in the Faculty of Science, CU. The program is operated by the Department of Food Technology. For more than 18 years, M.Sc. graduates from the program have become successful working in both private and government sector in Thailand and ASEAN. With many international academic and research collaborations, including the DDM in this Agreement, Food Science and Technology, M.Sc. Program will grow together with its partner universities and continue to thrive and succeed in the scientific world.

## **2. Selection of students**

Both universities ensure that the quality of students participating in this program will be according to the criteria described by the Graduate School and Department responsible. To enter the DDM, students have to meet all the qualifications set by the home and host universities. The home university will select potential participants according to their academic, personal and linguistic qualifications.

The host university will then evaluate the selected students for approval.

See Addendum, Article 5.

## **3. Studentship**

The students participating in the DDM will be registered as a regular student simultaneously in both universities. Each enrollment will be based on the admission policy set by the individual universities. Students in the DDM must complete all the required coursework and pass the proposal defense within the first or second year of M.Sc. program in their home university before applying for the admission to the host university.

Period of staying at the host university will be minimum one academic year (i.e. two semesters/4 months each), and not exceed two academic years

See **Annexe 1** for study plan for CU and UNITE DDM.

## **4. Academic advisor (tutor)**

Students in the DDM will have two academic advisors, one in the home university and the other in the host university. The advisors will be chosen among the faculty members and approved by each university (e.g. the Study programme Teachers Board.)

To promote the academic and research exchanges, the academic advisor of the host university may be invited as a visiting (Guest) faculty or "collaborative advisor" to the home university.

## **5. Recognition of credits**

Students participating in the DDM should obtain the required credits in accordance with the regulations of each university. The home university should recognize the credits earned by the DDM students at the host university under the credit transfer system.

In the absence of specific international rules, based on a deep analysis of the teaching activities, CU and UNITE agreed to a conversion of the Credits in Thailand and ECTS with the following correspondence 3 ECTS (UNITE)= 1 Thai Credit (CU).

## **6. Thesis committee**

The members of each dissertation committee will be selected under the regulations of each university. The Chair of the committee will be appointed by the authorized program committee of each university.

## **7. Thesis and review**

The DDM students are required to submit one thesis. The thesis, result of the project carried out in the hosting university, dealing with one main research project, must be written in English. The student will also be required to submit the abstract or summary written in the student's mother language. With appropriate responses to the critiques raised by the committees to the thesis, the student will then be allowed to have a thesis defense.

The number of publications should fulfill the graduation requirements of both universities combined. Thus, for the purpose of this agreement, as pre-requisite for graduation, both CU and UNITE students have to present along with the application for dissertation thesis defense either 1 proceeding of a poster/oral presentation at an international conference or 1 paper accepted based on the subject of the project thesis.

## **8. Award of degree**

The two universities will independently evaluate and award a Master degree. After successful completion of the academic requirements and dissertation defense in each university, the student will be awarded a Master degree from each university - a Master of Science (Food Science and Technology) from UNITE and a Master of Science (Food Science and Technology) from CU.

## **9. Quality Management Committee of the DDM (QMC-DDM)**

Each University will appoint a coordinator of the DDM that will care of all the management aspects of the DDM and be the reference person for any communication with the other university.

A Quality Management Committee (QMC) of the DDM (QMC-DDM) will be set to guarantee the high quality of the joint study programme.

## **10. Study period**

The expected study period will be determined in accordance with the regulations of the home university.

The total study period combining those at the home and host university must not exceed 4 years.

## **11. Financial support**

Neither university will charge the application fee on applicants to the DDM at the time of admission. The accepted students will be responsible for the admission/registration and tuition fee to the home university. Such fees will be exempted at the host university.

Both CU and UNITE university are committed to identify and find financial support and grants to favour the exchange of the students and teachers between the two institutions and reinforce their collaboration in education and research.

## **12. Intellectual property rights**

Intellectual property rights that arise from any inventions or discoveries developed by the DDM students during their stay in the DDM will be processed by each university according to its regulation. Each party will consult with the other in the event that any conflict may arise in processing intellectual property right.

## **13. Confidentiality**

Each Institution shall not, during the term of this Agreement or at any time thereafter, disclose to any third party any confidential information of the other Institution or make use of any such confidential information, including but not limited to the students' data enrolled under this dual degree programmes and thesis paper except as necessary to fulfill its obligations under this Agreement. This Clause shall not apply to any information which

(i) becomes generally known to the public, other than by reason of an act or omission of the recipient;

(ii) is required to be disclosed pursuant to any applicable laws or to any competent governmental, statutory or supervisory body to which the respective Institution is subject;

(iii) is required to be disclosed pursuant to any court order; or

(iv) is disclosed by the Institution to its professional advisers.

The coordinator of the program at home and host country is aware of confidentiality issue and in direct contact with the Students' affair office.

## **14. Term of the agreement**

This agreement shall become effective on the date of signing by the representatives of the two universities and continue for an indefinite period of time, unless prior written notice of termination is given to the other university at least 12 months before ending any academic year of such university.

UNITE and CU anticipate that students will enroll in the DDM at the beginning of academic year 2020-2021. Any amendment and modification, as well as extension or termination, may be made by the mutual agreement of the two universities. In case of termination of this Agreement for any reason, the status of all DDM students will remain valid for the entire duration of their study.

## **Additional information**

### **1. Reference institutions and administrative and management offices**

Each university identifies as reference institutions, administrative and management offices the following

#### *1.1. CU*

Faculty/Department: Head of Department, Assoc. Prof. Dr Kanitha Tananuwong (kanitha.t@chula.ac.th)

Faculty/Department Secretariat: Dr Sirima Puangpraphant (sirima.pu@chula.ac.th)

Faculty/Department Teaching support Office: Asst. Prof. Dr Varapha Kongpensuk (varapha.l@chula.ac.th)

Main Student's Office: Assoc. Prof. Dr Chaleeda Borompichaichartkul (chaleeda.b@chula.ac.th)

International Welcome Office: Dr Sarisa Suriyarak (sarisa.s@chula.ac.th)

#### *1.2. UNITE*

Faculty/Department: dean, prof. Enrico Dainese (edainese@unite.it)

Faculty/Department Secretariat: [presidenzabioscienze@unite.it](mailto:presidenzabioscienze@unite.it)

Faculty/Department Teaching Support Office: dott.ssa Natalia Izzi ([nizzi@unite.it](mailto:nizzi@unite.it))

Main Student's Office: dott. Paolo Melasecchi ([pmelasecchi@unite.it](mailto:pmelasecchi@unite.it)) and dott.ssa Elena Perrotta ([eperrotta@unite.it](mailto:eperrotta@unite.it))

International Welcome Office: dott.ssa Elena Perrotta ([eperrotta@unite.it](mailto:eperrotta@unite.it))

Any change occurring during the duration of the agreement on the reference contact persons will be promptly communicated to the respective partner institution in the DDM.

### **2 DDM local coordinators**

Each university has identified the following as DDM local coordinator:

- For CU: Assoc Prof Dr Chaleeda Borompichaichartkul
- For UNITE: Prof. Dr Paola Pittia

### **3. Students origin and number**

UNITE and CU shall inaugurate the DDM for their master students, especially those with Italian and Thai nationality, respectively, to increase and strengthen the regional co-operations between ASEAN countries and Italy. The possibility of students, with nationality other than Italian and Thai (i.e. international students) enrolling at UNITE and

CU and entering the DDM will be discussed and approved by the authorized committees of both UNITE and CU.

The number of DDM student accepted will be limited to 5 students from UNITE and CU per year.

#### **4 Double Degree Master title and programme**

The DDM is an academic program that will enable the students enrolled in the master program at their home university to transfer to the master program at the host university in order to obtain master degrees from both universities upon completion of their master courses.

The DDM students who successfully pass the dissertation defenses will receive

- the “**Master Degree in Food Science and Technology**” title by the completion of the DDM implemented as curriculum of the International Master Degree in Food Science and Technology (LM-70) officially accredited by the Italian Ministry of Education and University,
- the “**Master of Science in Food Science and Technology**” (International Program) from CU officially accredited by the Ministry of Higher Education Science Research and Innovation, Thailand.

The DDM will be coursework programs at both CU and UNITE, and basic requirements for graduation must be fulfilled for both programs. This includes courses and exams at the home university and exams and thesis project at the host university (see **Annexe 1**).

#### **5. Requirements for enrollment at the DDM**

To be eligible for the DDM, the DDM candidates must fulfill the basic requirements for enrollment of both home and host universities and pass the DDM screening examination (written/oral) and proposal defense held by the respective host university.

##### **5.1 Basic requirements for enrollment at CU**

CU students must have obtained a bachelor’s degree in related field (e.g. Food Science and Technology, Agriculture, Agro-Industry, Biotechnology, or similar). If students will enroll with bachelor’s degree different than the aforementioned, missing knowledge in Food Science they have to complement their study during the first year with some courses on Food Science and Technology that will be defined by the local the DDM program committee.

For students that achieved the Bachelor’s degree in an institution other than CU a Point Average with Grade (G.P.A.) of 3.0 or above from an institution validated by the Ministry of Education has to be proved: As regards English, a TOEFL score of at least 530 (or CU-TEP score of at least 71/IELTS score of at least 6.0) has to be certified. Other additional requirements may be issued by the program committee for each semester.

##### **5.2 Basic requirements for enrollment at UNITE**

UNITE students should have Food Science and Technology (Italian degree class L26 - Ministerial Decree 270 or class 20 ex Ministerial Decree 509/99, or equivalent within the meaning of the Ministerial Decree of 9 July 2009) or equivalent qualification obtained abroad outside Italy or a bachelor's degree in related field (e.g. Biotechnology, Biological sciences, Agricultural Science and Technology, Agri-food and forestry, Chemical Science and Technology, Pharmaceutical Sciences and Technologies, Science and technology for the environment and nature and Science and Technology Animal Production and Animal Production) under the condition that they have acquire minimum 56 ECTS in the following disciplines: Chemistry (General and Organic, analytical); Agronomy and animal production, biology and biochemistry and 18 ECTS on disciplines related to Unit Operation, Food processing. Food engineering and Food microbiology. The minimum requirements are accessible at [https://www.unite.it/UniTE/Pre-courses\\_for\\_students\\_of\\_the\\_Master\\_degree\\_in\\_Food\\_Science\\_and\\_Technology](https://www.unite.it/UniTE/Pre-courses_for_students_of_the_Master_degree_in_Food_Science_and_Technology)

UNITE students must have an English level equal to B2 or equivalent (e.g. IELTS at least 6.0) In addition, DDM students have to undertake a self-evaluation test to verify the adequacy of the personal knowledge and skills (test) with a positive final score.

At UNITE the enrollment of students at the DDM has to be finalized by November of each year and self-evaluation test performed by October.

## **6. Enrollment: preliminary evaluation step**

Each University is committed to apply the screening and evaluation of minimum requirements evaluation. The DDM candidates who have passed the DDM screening examination will be notified by the host university. The DDM students shall enroll in the host university as a regular student.

## **7. Timing and students exchange**

The students exchange will take care of the timing of the academic year in the respective country taking into account the following:

### **7.1. CU**

Academic year start: 2<sup>nd</sup> week August,

1<sup>st</sup> semester: 2<sup>nd</sup> week August, up to December

2<sup>nd</sup> semester 2<sup>nd</sup> week January (following year), up to May

Exams time: First semester 1<sup>st</sup> -2<sup>nd</sup> week of December, Second semester 1<sup>st</sup> -2<sup>nd</sup> week of May.

Vacations... First semester 3-4<sup>th</sup> week of December, Second semester 3-4<sup>th</sup> week of May to July

The CU DDM students who will attend UNITE will be accepted at the beginning of the first semester of 2<sup>nd</sup> year (September /October), starting from September /October 2020

## **7.2. UNITE**

Academic year start: end September (2<sup>nd</sup> year) -middle October (1<sup>st</sup> year)

1<sup>st</sup> semester: end September (2<sup>nd</sup> year) -middle October (1<sup>st</sup> year) up to 20<sup>th</sup> Dec or 15<sup>th</sup> January (following year)

2<sup>nd</sup> semester: end February (following year) up to the end of May

Exams time: ca. 15<sup>th</sup> January-20<sup>th</sup> February (1<sup>st</sup> semester), 1<sup>st</sup> June- 31<sup>st</sup> July, 1<sup>st</sup> September- 15<sup>th</sup> September

Official vacations: ca. 20<sup>th</sup> December – 6<sup>th</sup> January (Christmas time, New Year); ca. 5<sup>th</sup> August-20 August (Summer vacations); 25<sup>th</sup> April, 1<sup>st</sup> May, 2<sup>nd</sup> June, 8<sup>th</sup> December, 19<sup>th</sup> December.

The UNITE DDM students who will attend CU will be accepted at the beginning of the first semester, 2<sup>nd</sup> Year (1-2<sup>nd</sup> week August), starting from August 2020.

## **8. DDM study programme and Learning Agreement**

For the DDM degree CU and UNITE students have to comply with the for their study programme (**Annexe 1-Excel file**).

The home university will recognize the credits earned by the DDM students at the host university under the credit transfer system.

Educational and research plans for each DDM student will be decided upon by prior consultation between the academic advisor at the home university and the prospective academic advisor at the host university. Such plans will require the approval of the authorized committee at both universities and an individual Learning Agreement has to be prepared (**Annexe 2**).

The **Learning agreement** of a DDM student will include the list of the courses and exams and the project thesis title planned to be carried out at the host university.

The DDM students to be awarded the master degrees shall be required to earn the credits required by each university, develop one main research project, pass proposal defenses, complete the master thesis and successfully pass the master thesis defenses at home university.

The maximum period of the DDM is 4 years combining the study period at the home and host universities.

Period of staying at the host university will be one academic year or more, but not exceed two years. During the period at the host university the DDM student has to take courses, make exams and carry out the research project for the final thesis.

The plan of the courses and project of each DDM student will be included in the Learning agreement that will be approved by the Programme Quality Assurance Committee.



## **9. Master thesis and thesis defense**

The DDM students should satisfy the requirements for DDM completion within the required period of study by each university (not exceed 4 years in total). The period of study at the home university will be included in the required period of study at the host university.

The DDM students should submit one master thesis for both home and host university according to the respective rules and timing. The thesis, result of the project carried out in the hosting university, must be written in English. The student will also be required to submit the abstract or summary written in the student's mother language.

Each university has to ensure the reaching of the minimum requirements for the Thesis defense.

The evaluation, thesis presentation and defense will follow the rules of the home university.

With appropriate responses to the critiques raised by the committees to the thesis, the student will then be allowed to have a thesis defense.

Along with the thesis, the DDM student (both CU and UNITE student) as pre-requisite for graduation, have to present along with the thesis the documentation stating the participation as co-author of either 1 proceeding of a poster/oral presentation at an international conference or 1 paper accepted based on the subject of the project thesis.

The publication requirement must be satisfied according to the curriculum requirements of each university, and the DDM students must include 2 affiliations of host and home universities in each publication. The right of publication and dissertation for fulfilling the university requirements for graduation will be granted to the corresponding university which awards the degree.

For the thesis evaluation and dissertation, at UNITE, a board of at least 7 teachers will receive at least 3 weeks in advance to the planned date for thesis dissertation the electronic file of the thesis along with the related publication(s). The thesis committee at each university should review the student's thesis and make comments either before the dissertation or during the dissertation. The tutor of the DDM student of the host university will be invited to attend via virtual tools (Skype, any other virtual web-conferencing tool).

For CU, the thesis evaluation and dissertation, a board of maximum 5 teachers will receive at least 2 weeks in advance to the planned date for thesis dissertation the electronic file of the thesis along with the related publication(s). The thesis committee at each university should review the student's thesis and make comments either before the dissertation or during the dissertation. The tutor of the DDM student of the host university will be invited to attend via virtual tools (Skype, any other virtual web-conferencing tool).

## **10. Academic advisors**

Each DDM student will have an academic advisor (or tutor) at both the home and host university that will be appointed at the beginning of the academic year. They will be in charge of the Learning Agreement of the student and supervise the DDM student during

the entire academic study programme. Meetings between the academic advisors from home and host universities should be organized periodically, i.e. every semester, to facilitate the students' research.

Any additional document such as research permission, required for the research conduction at the host university will be provided or facilitated by the academic advisor.

## **11. Programme Quality Assurance Committee**

The PQAC of the DDM is composed by the local coordinators of the DDM degree programme, one teacher/professor and one staff member for each university (6 members).

It will care of establishing and monitoring Programme-based quality standards and practices that will be jointly defined; coordinating the Annual Review and any self-assessment of Programme Quality Assurance System; and coordinating the implementation of recommendations from the Annual Review (**Annexe 4**).

## **12. Insurance and Financial aspects**

### ***12.1. Insurance***

Each DDM student has to provide himself with a suitable insurance covered by the Institution of the origin. This may be provided either by their home institution, according to its own regulation, or it may be directly set up by the interested person though the stipulation of a policy with the insurance agency guaranteeing the above mentioned risks.

For CU DDM students visiting UNITE, according to local rules, a laboratory safety course will be provided for free in order to be allowed to undertake the project research in the laboratories of the Faculty of Bioscience as well as UNITE DDM students visiting CU need to attain the safety training before commence on the project research.

### ***12.2. Enrollment and bench fees***

No enrollment and bench fees are required to the DDM Students by the hosting university.

The related regulations of each home university shall apply to the financial support for the DDM students. In case of withdrawal from the DDM for any reason, the students are bound to repay any exempts, expenses or scholarship they receive from the DDM.

### ***12.3. Other expenses***

The DDM students shall be responsible for their own expenses including travel expenses, living expenses, accommodation and textbooks as well as medical insurance, etc.

The DDM students should be able to conduct their daily lives in English and/or the language of the host university.

The host university will make every effort to support the DDM students, such as making arrangement for accommodations.

For UNITE,

- the International Welcome Office will be appointed to support the DDM students from CU for visa and accommodation arrangements. The Center of Foreign Modern Languages will provide for free courses of Italian language.

For CU,

- the International Welcome Office will be appointed to support the DDM students from UNITE for visa and accommodation arrangements.

### **13. Variations and amendments**

In the event that either of the Graduate School or Faculty responsible is reorganized within the term of this agreement as described in this addendum, the newly formed organization that is established in this reorganization will be responsible for the DDM described herein.

### **14. Validity**

This Addendum shall become effective upon signature by the representative of both universities. Any amendment and modification, as well as extension or termination, may be made by the mutual agreement of the two universities

## **ANNEXE 1: STUDY PLAN**

**Credits conversion: 3 ECTS = 1 Thai Credit**

**1.1. Study plan for DDM students of UNITE (host University: CU)**

**1.2. Study plan for DDM students of CU (host University: UNITE)**

## **ANNEXE 2: LEARNING AGREEMENT**

## ANNEXE 3: LEARNING AND ASSESSMENT

### 1. CU Learning and assessment

Instructor(s) must clearly address behavioral objective(s), learning outcome(s) and assessment method(s) in the course syllabus and these will be evaluated by both students and instructors upon completion of the online evaluation system via CU-CAS.

For each module, assessments of learning outcomes using the total score collected from class participation, group activity, module assignment, student's performance during practical work, laboratory activity report, oral presentation, written examination and comment from thesis or internship advisors (if applicable) will be considered for grading of students according to the criteria stated in Chulalongkorn University's regulations on graduate studies. The midterm and final examinations are held every semester. Each student will be assigned a single letter grade at the end of each course according to the following grading system which is standardized for all departments, faculties and schools of the university.

Grading	Definition	Attached points
A	Excellent	4.0
B+	Very good	3.5
B	Good	3.0
C+	Fairy good	2.5
C	Fair/Competent	2.0
D+	Poor	1.5
D	Very poor	1.0
F	Fail	0.0
S	Satisfactory	Pass under S/U option
U	Unsatisfactory	Not pass under S/U option

The grade results: A, B, B+, C, C+, D, D+ and S will be considered for the number of credits required for the degree. At the end of each semester, a grade point average (GPA) is calculated to summarize the academic performance of the students of the whole semester. The accumulated (overall) grade point average (GPAX of 4.00 point-score report) is calculated at the end of the program to summarize the performance of the student of the whole program.

For graduation requirements, students must have a total time of study not exceed 4 academic years. All modules stated in the curriculum (see 3.1) must be completed with a minimum 3.00 GPAX of the whole program.

Student also is required to propose thesis proposal within 2 academic years, starting from the first semesters they enroll in the program and defend the thesis within 4 academic years, starting from the first semesters they enroll in the program. Student is required to have at least one proceedings or publication prior to request for thesis defending.

Therefore, for completion of the program, student need to have minimum of 3.00 GPAX and pass thesis examination and submit thesis with proceedings or publication to the graduate school.

## 2. UNITE Learning and assessment

Instructor(s) must clearly address behavioral objective(s), learning outcome(s) and assessment method(s) in the course syllabus and these will be evaluated by both students and instructors upon completion of the online evaluation system.

For each module, assessments of learning outcomes using the total score collected from class participation, group activity, module assignment, student's performance during practical work, laboratory activity report, oral presentation, written examination and comment from thesis or internship advisors (if applicable) will be considered for grading of students according to the criteria stated in the UniTE and study programme regulations on graduate studies. There are four sessions for final examinations are held, two every semester, with in total 9 appointments/year. Each student will be assigned a score at the end of each course according to the following grading system, standardized for the Italian university (in the table for comparison purposes the US evaluation grade).

<b>Italian Grading</b>	<b>Grading US</b>	<b>Definition</b>	<b>Attached points Thai</b>
30 cum laude	A+	Outstanding	-
30,	A	Excellent	4.0
29	B+	Very good	3.5
27-28	B	Good	3.0
26	C+	Fairy good	2.5
23-25	C	Fair/Competent	2.0
22-21	D+	Poor	1.5
20	D	Rather poor	1.0
19	F	Fail	0.0
18	S	Satisfactory	Pass under S/U option
<18	U	Unsatisfactory	Not pass under S/U option

**ANNEXE 4: COMPOSITION OF THE QUALITY ASSURANCE BOARD**

<b>CU</b>		<b>UNITE</b>	
<b>Role</b>	<b>Name</b>	<b>Role</b>	<b>Name</b>
Director of the Master Program in Food Science and Technology	Assoc Prof Dr Kanitha Tananuwong	Director of the Int. Master degree in Food Science and Technology /DD curriculum	Prof. Dr Paola Pittia
Lecturer	Asst Prof Dr Kiattisak Duangmal	Director of the Int. Master degree in Food Science and Technology	Ass. Prof. Giampiero Sacchetti