European Master Program in Chemical & Process Engineering

ProDesInt

Agreement

July, 2006

inpl Nancy (France)

INSTITUTE OF
CHEMICAL TECHNOLOGY
PRAGUE
PRAGUE (CZECH REPUBLIC)

UNIVERSITAT
ROVIRA I VIRGILI
TARRAGONA (SPAIN)

EUROPEAN

CONTRACT

Between:

- *The Rovira i Virgili University, represented by its Rector, Professor Xavier Grau*
- *The Institute of Chemical Technology Prague, represented by its Rector, Professor Vlastimil Ruzicka*
- *The Institut National Polytechnique de Lorraine, represented by its President, Professor Louis Schuffenecker*

Article 1:
The above Universities decide to establish and to operate a European Masters Program in Chemical and Process Engineering (ProDesInt). The contents of this Program, which must abide by the rules of each partner university, are enclosed in annex 1 of this contract. All the participating institutions will join with equal opportunities, conditions and rights.

Article 2:
The Master leads to a double degree, which is defined as two national degrees issued officially by two institutions involved in the integrated studies. The degrees are recognised in the countries in which the degree-awarding universities are located. The diploma can be issued by any of the partner Universities and is fully recognised by the other two. The double degree is signed by the Presidents or Rectors of the Universities at which the students have completed their Masters programme. The diploma certificate indicates that the double diploma represents a common programme.

Article 3:
The duration of the Master Course is 4 semesters (120 ECTS).
The students follow the first two semesters at one of the three Universities (referred to as the Entrance University).
The students do their third and fourth semesters (which consist of a research project) at a second partner University of the consortium (60 ECTS).

Article 4:
Each partner University undertakes to recognise each validated semester of studies spent at any of the other partner Universities.

Article 5:
Candidates for the Masters degree are selected on the basis of common admission criteria. The underlying modalities are defined by the three Universities according to the rules of each partner university and based on the common criteria established by the Bologna Agreement (180 ECTS in the knowledge area prior to entering the Master's program, after approval by the consortium members).

Article 6:
The consortium admits up to 18 new students each year. This corresponds to the total for Erasmus Agreements between the Universities and can be modified by agreement between the partners.

Article 7:
The universities will assist students as best they can to facilitate their stay abroad.

Article 8:
Students must be covered by health and accident insurance in accordance with the rules of each partner university.

Article 9:
Students will pay all mandatory fees to their host institution and pay only certificate issuance fees to their second university. The consortium may agree to implement an additional fee for non-European students.

Article 10:
Students will first be registered at the Entrance University and then at the Mobility University. The Entrance University will notify the Mobility University of the candidates for mobility and the Mobility University will then proceed to register these students.

Article 11:
The admission conditions can only be implemented if the partners have the necessary complementary financial means. The contractors undertake to collaborate to obtain further financial support from third parties, and in particular from the European Union. If one partner lacks the necessary financial means, it must inform the others in writing six months in advance. The party involved will remain committed to bringing to completion the training and tuition of the students registered in the first and second year at the time of this announcement.

Article 12:
All financial duties will be managed by each partner university following their national standards. In the event of a specific requirement or need, the consortium will agree to draw up a financial agreement.

Article 13:
Each University nominates two people as members of the steering committee. The steering committee will take all the decisions concerning the Master's programme, in particular with regard to:

- observing, harmonising and further developing the curriculum of the Master's programme;
- selecting the students admitted to the programme from the lists proposed by their partners; reporting and exchanging information with the Rectors/Presidents of the partner Universities and the academic bodies involved in the study program;
- auditing financial affairs within the consortium;
- organising periodical meetings;
- establishing and implementing quality control mechanisms.

Article 14:
Teacher mobility is considered in this contract. In addition to teachers from the partner institutions travelling internally, other teaching staff can eventually contribute to the programme.

This contract is signed for an initial period of two years. It will be renewed each year by tacit agreement.

This agreement may be amended by written consent of all the Parties.

If one of the parties wishes to cancel the contract, they must inform their partners in writing one year in advance. The party involved will remain committed to bringing to completion the training and tuition of the students registered in the first or second year before the termination of the contract.

If new institutions wish to join this programme, their accession will be documented in an annex to this agreement. This annex will ratify the commitment by the new member institution to the terms and conditions of the present agreement and testify that all the other participating universities agree to the accession of the new member.

Any disagreements between the partners in the present contract will be resolved amicably; if this is not possible, the "Principles of European Contract Law" (PECL) will be observed.

Signed in quadruplicate on 30 October 2006,

The Rovira i Virgili University, represented by its Rector, Prof. Francesc Xavier Grau Vidal

The Institute of Chemical Technology Prague, represented by its Rector, Prof. Vlastimil Ruzicka

The Institut National Polytechnique de Lorraine, represented by its President, Prof. Louis Schuffenecker

Annex I

List of courses corresponding to each partner. Students will conduct their first year of studies at their home university and the second year at a partner university.

List of courses at ICTP-Prague

Previous knowledge required:

General and Inorganic Chemistry, Mathematics, Physical Chemistry, Analytical Chemistry, Unit Operations

1st Semester – Compulsory	
Course Name	**ECTS**
Chemistry and Physics of Solids	5
Chemical Engineering Thermodynamics	7
Inorganic Technology: Laboratory I	5

1st Semester – Optional	
Course Name	**ECTS**
Environmental Protection Fundamentals	4
Chemical Technology	3
Chemical Informatics	4
Metallic Engineering Materials	4

2nd Semester – Compulsory	
Course Name	**ECTS**
Inorganic Technology I	5
Inorganic Technology: Laboratory II	8
Training in Industry	2
Educational Visit in Industry	1

2nd Semester – Compulsory/Optional	
Course Name	**ECTS**
Processes in Heterogeneous Systems	4
Electrochemical Engineering	4

2nd Semester – Optional	
Course Name	**ECTS**
Surfaces Solid Materials: Reactivity & Structure	5
Complex Processing of Mineral Raw Materials	4
Inorganic Technology II	4
Thermodynamics of Aqueous Solutions	
Inorganic Technology: Specialized Laboratory II	8

3rd Semester – Compulsory	
Course Name	**ECTS**
Applied Reaction Kinetics	8
Chemical Process Design	6
One of the following two laboratory has to be chosen:	
Inorganic Technology: Specialized Laboratory	8
Research Project	8

3rd Semester – Optional	
Course Name	**ECTS**
Electrochemical Processes	5
Advanced Chemical Informatics	4
Heterogeneous Catalysts and their Characterization	5
Membrane Processes	5
Fundamentals of Chemical Technologies	5

4th Semester	
Course Name	**ECTS**
Master Thesis Project	27
Master Thesis Tutorial	3

List of courses at URV-ETSEQ- Tarragona

First year (Professional)	
Course Name	**ECTS**
Advanced Thermodynamics	8
Fabrication Process Laboratory	8
Process Simulation and optimization	6
Equipment and Installation design	8
Optional I	*30*

Second year (Professional)	
Course Name	**ECTS**
Industrial Practice	15
Research Laboratory	15
Final Design Project	15
Optional II	*15*

First year (Research)	
Course Name	**ECTS**
Advanced Thermodynamics	8
Fabrication Process Laboratory	8
Process Simulation and optimization	6
Equipment and Installation design	8
Optional I	*15*
Optional II	*15*

Second year (Research)	
Course Name	**ECTS**
Industrial Practice	15
Research Laboratory	15
Final Design Project	15
Optional II	*15*

List Optional I	
Course Name	**ECTS**
Process Energy	6
Materials Science	6
Advanced control	6
Polymer Engineering	4
Modeling & Computing Industrial Processes	6
Principles of Polymeric systems	6
Practice in Project Management	8
Environmental Engineering	6
Energy production and Management	6
Statistics and quality control	2
Industrial Materials resistance	7
Atmospheric Pollution treatment	4
Water Treatment	4
Pollutant dispersion	4

List Optional II	
Course Name	**ECTS**
Topics in Process Engineering	3
Advanced Thermodynamics	3
Transport Phenomena	3
Reactor Engineering	3
Numerical Methods	3
Random Data Analysis with MATLAB	3
Multidisciplinary Seminars	3
Process Thermodynamics	3
Advanced Biochemical Engineering	3
Membrane Separations	3
Renewable Energies	3
Convective Transport	3
Molecular Simulation	3
Food Engineering	3
Applied Catalysis	3
Environmental Engineering	3
Communication Techniques and Teaching Effectiveness Science & Engineering	3
Team Based Project Management	3
Topics in Bioartificial Organs	3
Characterization of Materials and Surfaces	3

List of courses at INPL-Nancy

1st year – Compulsory	
Course Name	**ECTS**
Phénomènes de Transport et Transferts, Energétique A	8
Systèmes Réactifs A	9
Génie des Séparations A	5
Phénomènes de Transport et Transferts, Energétique B	8
Systèmes Réactifs B	4
Génie des Séparations B	6

1st year – Optional	
Course Name	**ECTS**
Conception de Procédés Industriels	5
Chimie Macromoléculaire	3
Hygiène, sécurité, Environnement	4
Méthodes et Génie Analytiques	2
Systèmes Polyphasiques et Réactifs A	3
Exploitation de Procédés	3
Interactions Colloïdales et Phénomènes Superficiels	4
Organisation Moléculaire et Atomique dans les Solides	2

2nd year – Compulsory	
Course Name	**ECTS**
Systèmes polyphasiques et réactifs	6
Modélisation, Simulation	9
Innovation, Intensification, Exploitation des Procédés	9
Stage	30

2nd year – Optional	
Course Name	**ECTS**
Option procédés de polymérisation	6
Option procédés biotechnologiques	6
Option procédés de chimie fine	6
Option hygiène, sécurité, environnement	6
Option commande avancée	6


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