

STUDENT EXCHANGE PROTOCOL

Between: Université Laval (Québec, Canada)
Faculté des sciences et de génie

and Norwegian University of Science and Technology (Trondheim, Norway)
Faculty of Engineering Science and Technology

The Faculté des sciences et de génie at Université Laval and Norwegian University of Science and Technology (NTNU) undertake to establish, in a reciprocal manner and in the interest of both establishments, an agreement allowing full time students to take courses at the host institution while receiving a diploma from their home institution.

Université Laval students participate in this exchange program as part of the International Profile.

The parties agree on the following terms:

1. The partner institutions undertake to exchange, per academic year, a maximum of three (3) students per program enrolled:
 - a) either in the Baccalauréat en génie des eaux, Baccalauréat en informatique, Baccalauréat en génie logiciel, Baccalauréat en génie mécanique, and the corresponding programs at NTNU;
 - b) or in any other program of Université Laval and NTNU, subject to the authorization of the program director.
2. The partner institutions agree to establish an equivalency between the courses in their program and to credit the courses passed by the exchange students at the host institution.
3. The partner institutions select their exchange students on the basis of jointly established criteria.
4. The partner institutions jointly draw up a list of courses for the participating students from their home course directories. This list, appearing in the Appendix A of this protocol, may be modified each year, if need be.
5. The home institution sends to the host institution, based on an established schedule, a file for each of the exchange students including as a minimum the following documents:
 - An official transcript;
 - A birth certificate and proof of citizenship (copy of passport);
 - A list of courses jointly authorized by the partner institutions;
 - A home institution's evaluation of the student's knowledge of the host institution's teaching language.*

* *Exchange students from NTNU can register for French courses for non-francophones at Université Laval's School of Languages, either during the first period (May-June), the second period (July-August), the fall session or the winter session. The School of Languages will charge activity fees for Français langue étrangère (FLE) level courses.*

* *Exchange students from the Université Laval must earn a minimum score of 750 points on the Test of English for International Communication (TOEIC) before the exchange.*
6. The host institution does not charge tuition fees for exchange students.

7. The partner institutions ensure that the students are given a proper welcome, have an academic tutor to favour their integration in their academic program and are given the necessary information to find housing.
8. Each university has the necessary professional liability insurance to cover adequately its operations, activities and commitments associated with this protocol.
9. The partner institutions will ensure to inform their students of the content of this protocol by an adequate publicity.
10. The partner institutions ensure that the exchange students make the following commitments:

BEFORE THEIR DEPARTURE

- a) To have completed the number of sessions required by their regular program;
- b) To have a final approval of the chosen academic activities by their home program director;
- c) To be personally responsible for obtaining, in due time, the documents required by the host country;
- d) To be enrolled as a regular full-time student and have satisfied their financial obligations to their home institution.

DURING THEIR STAY AT THE HOST INSTITUTION

- e) To comply with the rules of this institution;
- f) To enrol for one or two semesters, but no more than two;
- g) To be responsible for all transportation costs, living expenses, books and supplies, required insurances* (illness and hospitalization, personal effects, civil liability, vehicle, etc.) during their stay at the host institution.

** Exchange students at the Université Laval are required to join the collective health and hospitalization insurance plan offered by the institution, unless they are covered by a reciprocal agreement pertaining to health and social security and have proof of it at the moment of registry.*

- h) To see that their official transcript is sent to their home institution and, if need be, to assume the associated costs.

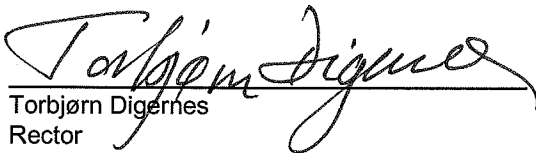
Duration and Scope of the Protocol


This protocol will remain valid for a period of five (5) years upon signature by both parties. It can be amended and renewed by mutual written consent of the parties involved.

Either party may terminate this protocol by giving a three-month (3) written notice, without prejudice to the exchange programs already underway.

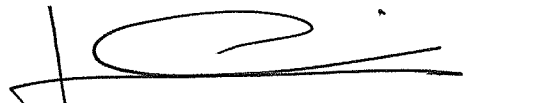
The present protocol comes into effect at the date of signature by both parties.


For NTNU


Torbjørn Digernes
Rector


Hilde Skeie
Director, Office of International Relations

For Université Laval


Bernard Garnier
Vice-recteur aux études et aux activités
internationales


Guy Gendron
Doyen
Faculté des sciences et de génie

Date : 05.05.2010

Date : 30/08/2010

APPENDIX A

LIST OF COURSES

Participating students from **NTNU** choose the number of required courses as follows:

UNIVERSITÉ LAVAL

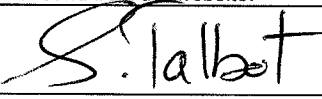
Baccalauréat en génie des eaux

COURSE NO.	COURSE TITLE	CR
	<p>All courses of the Baccalauréat en génie des eaux, Baccalauréat en génie logiciel, , Baccalauréat en informatique et , Baccalauréat en génie mécanique of the Faculté des sciences et de génie are open to NTNU students based on schedule availability and subject to the students being approved by the program director. The course lists are available at the following addresses:</p> <p>Liste des cours http://www2.ulaval.ca/les-etudes.html</p>	

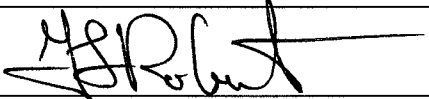
Participating students in the **Baccalauréat en génie des eaux at Université Laval** choose the number of required courses from those listed below:

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Master of Science in Hydropower Development- <i>First year with basic courses</i>		
COURSE NO	TITLE OF COURSE	Credits
TVM 5135	Planning of hydropower	7.5
TVM 5105	Hydrology for hydropower	7.5
TVM 5125	Hydraulic design	7.5
TVM 5115	Planning and design of dams	7.5
TVM 5145	Geology and tunnelling	7.5
TVM 5140	Environmental and economic assessment of hydropower	7.5
<p>*** The exchange will not be limited to the above-mentioned courses. Students who wish to take a course that is not on this list must first obtain authorization from the program director. The Bureau du Registraire at Université Laval considers 1 Laval credit to be equivalent to 2 ECTS. Course descriptions for International Studies Centre (ISC) courses can be found from the website:</p>		



Serge Talbot
 Directeur
 Direction générale des programmes de 1er cycle



Jean-Loup Robert
 Directeur
 Baccalauréat en génie des eaux

APPENDIX A (next)
LIST OF COURSES

Participating students in the **Baccalauréat en informatique et Baccalauréat en génie logiciel** at **Université Laval** choose the number of required courses from those listed below:

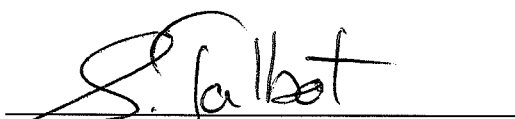
NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

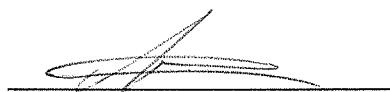
Sigle	Titre	ECTS
TDT4150	Advanced Database Management Systems (gr)	7,5
IT3807	Advanced Information Retrieval (gr)	7,5
TDT4125	Algorithm Construction, Advanced Course (gr)	7,5
TDT4120	Algorithms and Data Structures (a1c)	7,5
TDT4287	Algorithms for Bioinformatics (gr)	7,5
TDT4171	Artificial Intelligence Methods (a1c)	7,5
IT3105	Artificial Intelligence Programming (gr)	7,5
TDT4205	Compiler Construction (gr)	7,5
TDT4260	Computer Architecture (gr)	7,5
TDT4285	Computer Systems - Design and Operation (gr)	7,5
TDT4220	Computer Systems Performance Evaluation (gr)	7,5
TDT4265	Computer Vision (gr)	7,5
TDT4145	Data Modelling, Databases and Database Management Systems (i1c)	7,5
IT3803	Digital Libraries (gr)	7,5
TDT4280	Distributed Artificial Intelligence and Intelligent Agents (gr)	7,5
TDT4190	Distributed Systems (a1c)	7,5
TDT4575	Game Technology, Specialization Course (gr)	7,5
TDT4180	Human-Computer Interaction (i1c)	7,5
TDT4195	Image Techniques (a1c)	7,5
IT2801	Information Retrieval (i1c)	7,5
TDT4175	Information Systems (a1c)	7,5
IT3709	Intelligent User Interfaces (gr)	7,5
TDT4138	Knowledge Representation and Modelling (gr)	7,5
TDT4136	Logic and Reasoning Systems (a1c)	7,5
TDT4173	Machine Learning and Case-Based Reasoning (gr)	7,5
TDT4225	Management of Very Large Data Volumes (gr)	7,5
TDT4275	Natural Language Interfaces (gr)	7,5
TDT4100	Object-Oriented Programming (b1c)	7,5
IT2103	Object Oriented Software Engineering (i1c)	7,5
TDT4186	Operating Systems (a1c)	7,5
TDT4200	Parallel Computing (gr)	7,5

Sigle	Titre	ECTS
IT2302	Pedagogical Software (i1c)	7,5
TDT4102	Procedural and Object-Oriented Programming (b1c)	7,5
TDT4130	Procedure-Oriented Programming (a1c)	7,5
TDT4165	Programming Languages (a1c)	7,5
TDT4242	Requirements and Testing (gr)	7,5
IT3010	Research Methodology in Computer and Information Science (gr)	7,5
TDT4240	Software Architecture (gr)	7,5
TDT4140	Software Engineering (i1c)	7,5
IT2603	Software Engineering II (i1c)	7,5
TDT4235	Software Quality and Process Improvement (gr)	7,5
IT3605	Software Quality and Software Metrics (gr)	7,5
TDT4237	Software Security (gr)	7,5
TDT4270	Statistical Image Analysis and Learning (gr)	7,5
IT3708	Sub-symbolic AI Methods (gr)	7,5
IT3402	User Interface Design (gr)	7,5
TDT4230	Visualization (gr)	7,5
TDT4215	Web Intelligence (gr)	7,5
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Légende (abréviations entre parenthèses à la fin des titres de cours) :

- gr : niveau gradué
- a1c : niveau avancé 1^{er} cycle
- b1c : cours de base
- i1c : niveau intermédiaire 1^{er} cycle


 Serge Talbot
 Directeur
 Direction générale des programmes de 1er cycle


 Nadia Tawbi
 Directrice
 Baccalauréat en génie logiciel et
 Baccalauréat en informatique

APPENDIX A (next)
LIST OF COURSES

Participating students in the **Baccalauréat en génie mécanique at Université Laval** choose the number of required courses from those listed below:

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Sigle	Titre	ECTS
TEP4160	Aero Dynamics	7,5
TEP4245	Building Environmental Design and Engineering	7,5
TEP4165	Computational Heat and Fluid Flow	7,5
TEP4220	Energy and Environmental Consequences	7,5
TEP4535	Energy and Indoor Environment, Specialization Course	7,5
TEP4175	Energy from Environmental Flows	7,5
TEP4150	Energy Management and Technology	7,5
TEP4235	Energy Management in Buildings	7,5
TEP4565	Energy Use and Energy Planning - Heat Energy, Specialization Course	7,5
TEP4215	Energy Utilization and Process Integration in Industrial Plants	7,5
TEP4545	Engineering Fluid Mechanics, Specialization Course	7,5
TEP4212	Environmental and Cleaning Technologies	7,5
TEP4180	Experimental Methods in Process Engineering	7,5
TEP4265	Food Engineering	7,5
TEP4170	Heat and Combustion Technology	7,5
TEP4555	Heat and Energy Processes, Specialization Course	7,5
TEP4255	Heat Pumping Processes and Systems	7,5
TEP4260	Heat Pumps for Heating and Cooling of Buildings	7,5
TEP4205	Industrial Fluid Power	7,5
TEP4185	Industrial Process and Energy	7,5
TEP4525	Industrial Process Technology, Specialization Course	7,5
TEP4222	Input-Output Analysis, Trade and Environment	7,5
TEP4223	Life Cycle Assessment	7,5
TEP4200	Mechanical Design, Operation and Maintenance of Hydraulic Machinery	7,5
TEP4250	Multiphase Transport	7,5
TEP4240	System Simulation	7,5
TEP4515	Thermal Energy, Specialization Course	7,5
TEP4195	Turbo Machinery	7,5
TEP4112	Turbulent Flows	7,5
TEP4156	Viscous Flows and Boundary Layers	7,5
TMM4235	Advanced Materials and Testing	7,5
TMM4162	Atomistic Modeling of Materials Failure	7,5
TMM4182	Casting and Forming of Metals	7,5
TMM4225	Configuration and Use of Collaborative Working Environments	7,5

TMM4170	Corrosion	7,5
TMM4155	Engineering Design and Materials Technology	7,5
TMM4852	Experts in Teamwork - Advanced International Teaching Material	7,5
TMM4850	Experts in Teamwork - Instrumentation and Control via Internet	7,5
TMM4160	Fracture Mechanics	7,5
TMM4220	Innovation - Without Limits	7,5
TMM4165	Joining Technology	7,5
TMM4150	Machine Design and Mechatronics	7,5
TMM4505	Manufacture of Metals, Specialization Course	7,5
TMM4185	Mechanical Vibrations	7,5
TMM4515	Polymers and Composites, Specialization Course	7,5
TMM4510	Polymers and Composites, Specialization Project	15
TMM4525	Product Development, Specialization Course	7,5
TMM4130	Product Development and Information Technology	7,5
TMM4535	Structural Integrity, Specialization Course	7,5
TMM4230	Technology for Integrated Operations and Semantic Web	7,5
TMM4205	Tribology and Surface Technology	7,5

TKT4150	Biomechanics	7,5
TKT4220	Concrete Structures 2, Advanced Course	7,5
TKT4222	Concrete Structures 3	7,5
TKT4215	Concrete Technology 1	7,5
TKT4225	Concrete Technology 2	7,5
TKT4108	Dynamics, Advanced Course	7,5
TKT4851	Experts in Teamwork - Concrete Innovation	7,5
TKT4145	Finite Element Methods in Engineering Science	7,5
TKT4192	Finite Element Methods in Strength Analysis	7,5
TKT4135	Mechanics of Materials	7,5
TKT4197	Nonlinear Finite Element Analysis	7,5
TKT4230	Steel and Aluminium Structures	7,5
TKT4505	Structural Engineering, Specialization Course	7,5
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Serge Talbot
Directeur

Direction générale des programmes de 1er cycle



Yvan Maciel
Directeur

Baccalauréat en génie mécanique