Agreement on a Double Master's Degree Programme in Mathematics

Between

University of Rouen, hereinafter referred as UR,
represented by President Prof. Cafer OZKUL,
1 Rue Thomas Becket
76821 Mont-Saint-Aignan, France

and

Federal State Autonomous Educational Institution of Higher Education "National Research Tomsk State University", hereafter referred as TSU,
represented by Rector Prof. Eduard V. GALAZHINSKIY,
Lenin Avenue 36, 634050 Tomsk, Russia

regarding the following diplomas

- the Master's Diploma of UR "Fundamental and Applied Mathematics" (FAM) and one of its option "Mathematics Analysis Modelization" (MAM)
- the Master's Diploma of TSU "Mathematics" with a supplement, being a state diploma of the Russian Federation.

Preamble

Within the framework of the cooperation agreement signed between UR and TSU on November 7, 2012, and taking into consideration contacts between two institutions in the fields of Education and Sciences, TSU and UR agreed to specify the procedure of issuing Double Degree diplomas in Master "Mathematical analysis and modeling" and to define conditions, means and rules for their awarding.

The two institutions agree that the academic organization of the joint educational Master Double Degree programme is in accordance with the national laws and regulations of both countries and mutually recognize academic practices.

Article 1. The Purpose of the Agreement

The Agreement concerns:
- the graduate students of TSU majoring in "Mathematics" Master programme who will follow at UR MAM Master's programme
- the graduate students of UR majoring in FAM Master's programme, who will follow at TSU "Mathematics" Master programme, respectively.

Under the terms of this Agreement these students, who will succeed to the evaluation tests, will be awarded two diploma of Master in MAM at UR and Mathematics at TSU.

Article 2. Course of Study

During the first year of Master programme students will study at home institution (FAM at UR and "Mathematics" at TSU).

Upon the successful fulfillment of requirements of the first year of Master, students will carry on their studies according to the schedule given in Appendix 1, namely: the third or the third and fourth semesters at the partner institution.

The language of instruction in TSU and in UR will be English.

Article. 3. Selection of Candidates

Selection of candidates will be held by TSU and UR in accordance with the rules of the relevant institution. Selection of students at each university must be earned out dutifully so that the candidates will be able to successfully study at a foreign university.

Candidates who apply for the Double Master's Degree must have a Bachelor or Engineering diploma in Mathematics and must be fluent in English (B2 level). English language level of candidates is confirmed by certified teachers in TSU and UR.

Students will be selected based on the following criteria: academic results specifically in mathematics, language proficiency, personal motivation and the grades awarded for their final Bachelor or engineering qualification work. The number of students selected and admitted to the Master Programme is established by mutual consent of the Parties.

Coordinators of this Double Master's programme undertake to inform and support the first-year Master, Bachelors and Engineers students about the conditions of the Double Degree Agreement using all available means (brochures, seminars, publication of information on websites, etc.).

Article 4. Examination and Assessment

Students comply with the training and exam procedures existing at the host institution. Both universities undertake to accept the assessment results obtained by students at home and host institutions. The evaluation scale of ECTS will be used as unification of obtained grades after validation by the two partners.

Article 5. Master's Dissertation

Co-supervising between the partners of UR and TSU is necessary. In UR the research topic is suggested to student by the student's scientific supervisor during the second year of Master course and validated by both Universities. In TSU the research topic is selected by students in the first semester of the first year of MSc course and validated by both Universities.

The Master's thesis for the Master's Degree in Mathematics is written and is defended in English.

The Master's thesis is defended in UR and TSU simultaneously in front of the joint Committee by videoconference and/or in presence of the co-supervisor. The Committee will be designed jointly by the two universities, heeding the regulatory demands of both institutions.

Article 6. Diploma Issuance

Each institution undertakes to issue a double Diploma at the end of the academic year. TSU issues a Diploma with State and European diploma supplements following the framework of international rules. UR issues international MAM mention diploma.

Article 7. Funding of Double Degree Programme

Tuition policies of the respective institutions are defined according to national regulations. The two institutions commit themselves to inform each other about the tuition policies in place. The tuition fees are paid at home university.

Students, who have the right to get a high education in Russia free of charge, are enrolled in TSU after selection. Students, who failed the selection, could be enrolled for a fee. Foreign citizens have the right for the budget financed education according to international agreements of the Russian Federation, federal laws or governmentally established foreign citizens' education quota, or using the funds of individual and legal entities according the commercial education agreement. Foreign students are eligible for TSU International Students Grant. Grant money could be spent on compensation of transportation and accommodation expenses, the cost of medical insurance and visa.

Education in UR is free. Students shall pay only documentation (registration) fee.

UR and TSU shall undertake to carry out all necessary work in regional and international organizations in order to obtain any required assistance to finance the programme.

Article 8. Accommodation and Insurance

Both universities undertake to provide accommodation. Students, who come to UR will be supported by UR to find accommodation in University Residence CROUS. Students who come to TSU will be accommodated in student dormitory. For this purpose, students, who come at the third semester shall connect with the administration of CROUS/TSU campus and make reservation before the 1st of June of the current year, and students, who come at the fourth semester, before the 1st of November of the current year.

Students, who come to UR, are obliged to buy social and medical insurance on arrival. Students, who come to TSU, are obliged to buy medical insurance, which is valid in Russia. UR and TSU undertake to assist in visa receiving.

Article 9. Research and Teaching Staff Mobility

Partner universities undertake to encourage mutual visits for teaching and research staff undertaken for participation in academic process in the relevant subject areas and in the academic research.

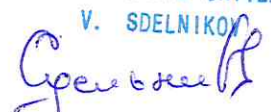## Article 10. Coordinators for the Double Degree Programme

The following persons will be responsible for this Double Degree programme:
- at TSU: Associate Professor Evgeniy Pchelincev
- at UR: Associate Professor Philippe Jouan, Professor Patrizia Donatto

Each institution undertakes to inform the partner university upon the changing of the responsible person.

Article 11. Duration of Agreement

This Agreement is concluded for a period of 5 years and shall enter into force on the date of signature by both parties. Partner universities reserve the right to terminate this Agreement by mutual consent on condition that the students enrolled in the Double Degree programme completed their studies.

For the failure or improper performance of duties under this Agreement, the Parties will be liable in accordance with the current laws of the Russian Federation and France. All disputes and disagreements that may arise out of this Agreement or in connection therewith will be solved by negotiation between the Parties. If the Parties do not reach an agreement in accordance with this article, all disputes shall be referred to the court.

The present Agreement has been drawn up in 3 hard copies, 2 in English and 1 in Russian: one in English and one in Russian for the records of the TSU, one in English for the records of the UR. All copies share the equal legal force.
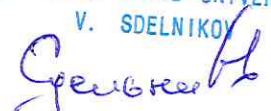
Mont Saint Aignan, 15/04/ 2016.
President of University of Rouen,
Professor Cafer Ozkul

Tomsk, _____ 2015.
Rector of Tomsk State University,
Professor Eduard Galazhinskiy

№	Title blocks, modules, courses, practices, research	Numbers of credits ECTS		The distribution of disciplines per semesters				Forms of training work	Forms intermediate certification	Competence
		Total Credits (ECTS)	Teaching hours Total/hours of active teaching	1	2	3	4			
Block 1. Disciplines		**59**	**2124/736**							
Basic courses (General Science)		**21**	**756/256**							
B.1.1	*Philosophy and methodology of scientific knowledge*	3	108/48				3	L, S	exam	GC-2, GC-4
B.1.2	*History and methodology of mathematics*	3	108/32		3			L	pass/fail	GC-10, PC-6
B.1.3	*Modern computer technologies*	5	180/80	3	2			L, PW	pass/fail exam	GC-1, PC-2, PC-7
B.1.4	*Mathematical models*	5	180/64		5			L, PW	exam	GC-1, PC-1, PC-2
B.1.5	*Foreign language (English)* *Foreign language (Russian)* *Foreign language (French)*	5	180/80			2	3	PW	pass/fail exam	GC-3, PC-10
Options (Professional Courses)		**38**	**1368/480**							
O.1.1	*Additional chapters of mathematical analysis*	5	180/64	5				L, PW	exam	PC-3, PC-4, PC-10
O.1.2	*Stochastic Modelling*	6	216/64	6				L, PW	exam	PC-2, PC-3
O.1.3	*Numerical methods*	6	216/64		6			L, PW	exam	PC-3, PC-7, PC-9
O.1.4	*Optimization methods*	5	180/64		5			L, PW	exam	PC-3, PC-8, PC-11
O.1.5	*Option 1*	3	108/64			3		L, PW	pass/fail	GC-2, PC-4, PC-8
Options (Elective Courses)		**13**	**468/160**							
O.1.6	*Option 2*	4	144/64	4				L	exam	PC-6,

Code	Name	Credits	Hours					Type	Assessment	Competences
								PW		PC-10
ı.7	*Option 3*	3	108/32			3		L	pass/fail	PC-2, PC-3
O.1.8	*Option 4*	3	108/32			3		L	pass/fail	PC-2, PC-4
O.1.9	*Option 5*	3	108/32				3	L	pass/fail	PC-2, PC-3, PC-7
Block 2. Research and internship		**55**	**1980/0**							
B.2.1	*Research*	49	1764/0	12	9	19	9		report	GC-7, GC-9, GC-10, PC-3, PC-5
B.2.2	*Internship, including pre-diploma practice*	6	216/0				6	P	report pass/fail	GC-7, PC-2, PC-8, PC-9
Block 3. Thesis with defense		**6**	**216/0**							
B.3.1	*Thesis with defense*	6	216/0				6			PC-3, PC-5, PC-7
Total		**120**	**4320/736**	30	30	30	30			

Symbols: L – lectures, S – seminars, PW - practical work; GC - general competence, PC - professiaonal competence.
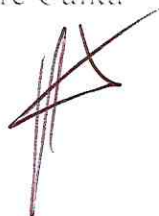
List of options

	Tomsk State University	Rouen University
Option 1 (S3)	Industrial mathematics	Linear optimization
	Modern methods of analysis and data visualization	Control and optimization
Option 2 (S1)	Functional analysis and its applications	Operators and Measures
		Sobolev spaces
	Qualitative analysis of ODE	ODE and its applications
Option 3 (S3)	Statistical analysis and forecasting of time series	Asymptotic statistics
	Multivariate statistical methods	Non asymptotic statistics
Option 4 (S3)	Methods of spline functions	Markov processes and chains
	Methods of solving ill-posed problems	Probability: limit theorems and ergodic theory
Option 5 (S4)	Methods of parallel computing	Analyse EDP and modelling
	Organization and Software High Performance Computing Systems	Scientific calculus
	Parallel programming technologies	

Mont-Saint-Aignan, « ___ » 15/01 2016.   Tomsk, « ___ » _____ 2015.
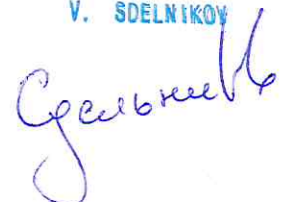
Director of the Department of Mathematics

Professor Pierre Calka

Acting Vice-Rector for Academic Affairs

Head of Academic Department
Elena Brel

UNIVERSITÉ DE ROUEN

National Research
Tomsk
State
University

Scale of academic grade conversion

(20-grade system)	Criteria	Russian note
19 - 20 points	Superior level of knowledge exceeding the volume of the compulsory material and including a creative approach to the discipline	Excellent, very good
17 - 18 points	Excellent level of knowledge within the boundaries of the compulsory material allowing for insignificant shortcomings	
15 - 16 points	Very good level of knowledge with a few discernible mistakes	Good, Highly satisfactory
14 – 15 points	Generally good level of knowledge with discernible mistakes	
12 - 13 points	Less than average level of knowledge with significant mistakes	Satisfactory
10 – 11 points	The least acceptable level of knowledge	
0 – 9 points	Unsatisfactory level of knowledge	Failed