

Joint Curriculum – version 2019

Master of Science in Communications and Signal Processing

Participating Institutions: TU-Ilmenau (Germany) and KNRTU-KAI (Kazan, Russia)

Duration of Study: 2 years

Place for Study: 1st and 2nd semesters – at KNRTU-KAI, 3rd semester – at TU Ilmenau,
4th semester – at KNRTU-KAI and/or TU Ilmenau

1st semester

Module	Credits of the Module	Minimum Contact Hours	Lecture	Practice, lab. work	Exams	Individual Work Hours	Minimum Total Student Workload, Hours	LECTURERS
The Mathematical Modeling of Devices and Systems	5	52	18	16+18	36	108	180	Dr. Ekaterina A. Korobkova and Ms. Sc Vladimir Fadeev
Info-communication technologies	5	36	18	18	36	108	180	Dr. Stanislav S. Sedov
Mobile Communications	3	70	36	18	-	110	108	M.Eng. Artur K. Gaysin
Information Theory and Coding	5	36	18	18	36	108	180	TU Ilmenau M. Sc. Dipl.-Ing. (FH) Marko Hennhöfer
Advanced Digital Signal Processing	6	70	36	16+18	36	110	216	Dr. Alexey A. Korobkov
Advanced Topics in	3	54	36	18	-	54	108	Dr. Ekaterina A. Korobkova

Mathematic								
Research work	3	18	-	18	90	-	108	KNRTU and TU Ilmenau
Total	30	336	162	158	144	598	1080	

2nd semester

Module	Credits of the Module	Minimum Contact Hours	Lecture	Practice	Exams	Individual Work Hours	Minimum Total Student Workload, Hour	LECTURERS
Multimedia Standards	3	54	18	36	-	54	108	Dr. Artem Kuznetsov
Theory of electromagnetic compatibility of radio electronic equipment and systems	3	36	18	18	-	72	108	Dr. Olga V. Potapova
Communication Networks	3	54	36	18	-	54	108	M.Eng. Artur K. Gaysin
Advanced Mobile Communication Networks	5	36	18	18	36	108	180	Univ.-Prof. Dr.-Ing. Andreas Mitschele-Thiel
MIMO Wireless Communications	5	54	18	36	36	90	180	TU Ilmenau Prof. Martin Haardt
Antenna Systems	3	20	-	20	36	52	108	Dr. Christian Hartman and Dr. Blau
Research work	5	36	-	36	-	144	180	KNRTU-KAI and TU Ilmenau
Total	27	290	108	182	108	574	972	

3rd semester

Module	Credits of the module	Minimum Contact hours	Lecture	Practice	Exams	Individual work hours	Minimum Total student workload, Hours	University
Cellular Communication Systems	5	54	36	18	36	90	180	TU Ilmenau
Audio Coding	3	36	18	18	-	72	108	TU Ilmenau
Advanced Topics in Communications and Signal Processing	3	54	36	18	-	54	108	TU Ilmenau
Measurements in Communications	5	54	36	18	36	90	180	TU Ilmenau
Adaptive and Array Signal Processing	8	72	36	36	36	180	288	TU Ilmenau
Research work	6	36	-	36	180	216	180	TU Ilmenau
Total	30	306	162	144	288	702	1044	

4th semester

Module	Credits of the module	Minimum Contact hours	Minimum Total student workload, Hours	University
Internship, master thesis	24	32	864	KNRTU and TU Ilmenau
Master thesis presentation and defense.	6	-	216	KNRTU and TU Ilmenau
Total	30	32	1080	