NORTH-EASTERN FEDERAL UNIVERSITY NAMED AFTER M.K. AMMOSOV

Course/program title:	**Radio Wave Propagation in the High-Latitude Ionosphere**
Main goals and topics of the course/program:	**I.A Brief History of Solar-Terrestrial Physics** 1.Introduction 2.Ancient Auroral Sightings 3.Early Measurements of the Geomagnetic Field 4.Ionosphere and Magnetosphere 5.Solar Wind **II. Introduction to Plasma Physics** 1. Introduction 2. Basic Plasma Parameters 3. Oscillations and Waves in a Plasma 4. Motion of Charged Particles in Electric and Magnetic fields **III. Ionospheric Properties** 1. Introduction 2. The Underlying Atmosphere 3. Ion Production Processes 4. Ion loss processes 5. Determining Ionospheric Density from Production and Loss Rates 6. D-region 7. E-region 8. F-region 9. Conclusion **IV. The Aurora and the Auroral Ionosphere** 1.Introduction 2.Scattering and Absorption of Auroral Particles 3.Auroral Spectrum 4.Auroral Intensities 5 Auroral Ionosphere 6.Auroral Effects on Radio Wave **V. Special Properties of the High-Latitude Ionosphere Affecting Radiocommunications** 1. Introduction 2. Plasma in the Earth's Middle and Inner Magnetosphere 3. Coordinate System and Auroral Activity 4. High-Latitude F-region **VI. Radio Ray Propagation Theory** 1. Introduction 2. Neglecting the Earth's Magnetic Field3. Including the Earth's Magnetic Field 4. Spherical Earth and Ionosphere 5. Ionospheric Cross-Modulation
Name of the department/institution offering the course:	Department of Radio Physics and Electronics, Physics Engineering Institute
Name of lecturer/supervisor:	Dr. Timofey N.Solovyev
E-mail of lecturer/supervisor:	tim_sol@yahoo.com
Number of ECTS-Credits:	3

Regarding the selection of courses please contact the Center for International Education, oip-yakutsk@mail.ru Contact person: Dr. Vladlen Kugunurov