

Course presentation

**TEACHING ENGLISH AT THE MASTER'S DEGREE COURSE  
"LEADERSHIP AND COMMUNICATION IN SCIENCE,  
INDUSTRY AND EDUCATION"**

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**Abstract.** *Increasing the share of multinational science in the global research and at the industry market leads to attracting promising young specialists and leaders to develop science, technology, engineering, economy and social sphere. The introduced course on "Leadership and Communication in Science, Industry and Education" for the Master's program students at the Foreign Languages Department of the Moscow Institute of Physics and Technology (National Research University) (MIPT) gives the graduates an invaluable opportunity to become well-rounded leaders in their respective fields. By focusing on leadership and communication skills mastered through English this course equips the students with the essential tools to excel in their careers and make a meaningful impact enhancing the reputation and visibility of Russian scientific achievements which positions the students as advantageous candidates for roles in technology transfer, research management, and industry-academia partnerships both in Russia and internationally.*

**Key words:** *leadership, communication, Master's program students, English language, an interdisciplinary course*

1. INTRODUCTION

Nowadays the Master's degree program in a Russian university is the main way to obtain higher education and professional expertise, a foreign language being an obligatory subject in its schedule. It welcomes undergraduate students to get enrolled for obtaining further professional education as it aims at qualitative preparation of a specialist deepening knowledge and providing the first experience of scientific work that should better fit into the new economic reality (Sobolevskaya 2022). Master's program students have the opportunity, while receiving their higher education, to try themselves as researchers and inventors gaining necessary skills and methods. Due to the profound obtained knowledge, a Master's degree graduate is in great demand by the society today because such a specialist is capable of demonstrating higher quality performance and better productivity not only in the area of the professional interest and specialization but also in managing other people, setting goals, making decisions, choosing the guiding

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strategy and distributing responsibilities in a team (Federal State Educational Standards of Higher Education in Master's Programs 2022, Northouse 2019) especially where the English language is the means of professional communication. Such a person has the motivation drive and potential of being a leader in science, industry and education. An English language course in these domains seems to be an effective tool for mastering both a foreign language and leadership and communication.

These are some of the reasons why in 2022-23 academic year the curriculum of the Foreign Languages Department of the Moscow Institute of Physics and Technology (National Research University) introduced the course "Leadership and Communication in Science, Industry and Education" for the Master's program students. Here are the screen shots of the corresponding pages from the site of the Foreign Languages Department related to teaching foreign languages to MSc students; the official language of the MIPT's site is Russian [https://mipt.ru/education/chair/foreign\\_languages/magistratura/](https://mipt.ru/education/chair/foreign_languages/magistratura/).

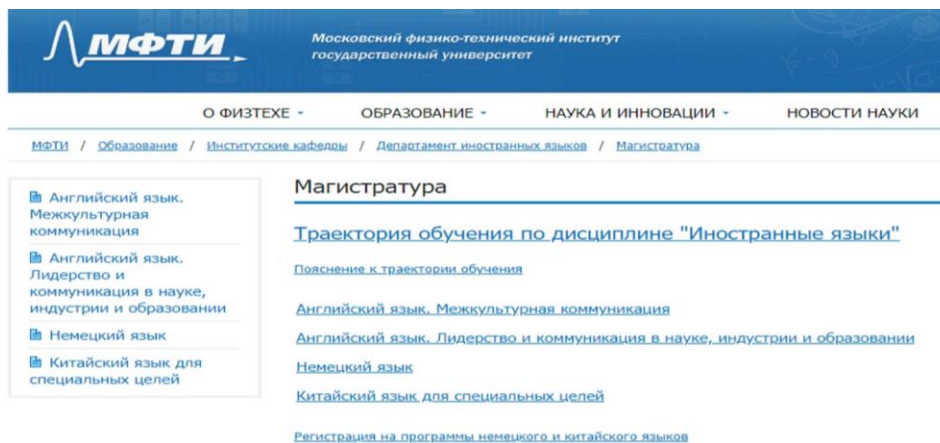


Fig. 1 List of the courses for MSc students offered by the Foreign Languages Department at MIPT

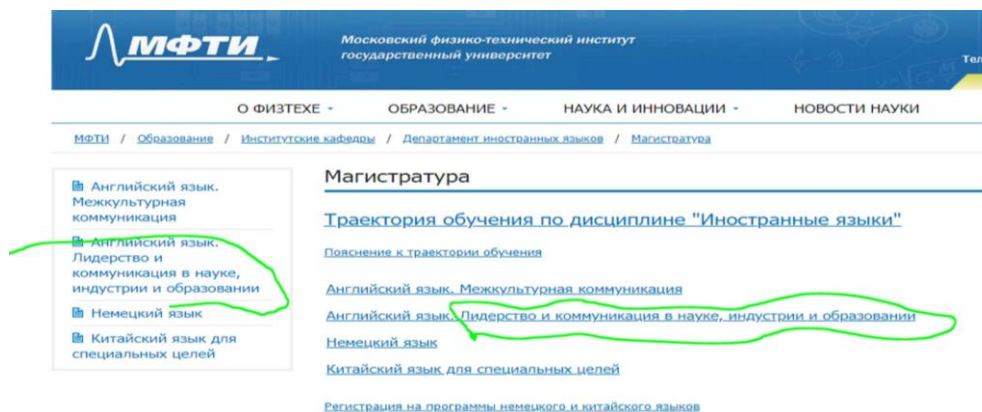


Fig. 2 Choice of the course "Leadership and Communication in Science, Industry and Education"



Fig. 3 Main page of the course "Leadership and Communication in Science, Industry and Education" with its description and curriculum program

The necessity of the course is dictated by both the strategic guidelines of the modern society and the provisions of the National Priority-30 Program (Priority 2030 State Program for Support of Universities of the Russian Federation 2021) which key goal is increasing the share of Russian science in the global research and industry for the period up to 2030 to make work in Russia attractive for promising young specialists and leaders staffing the priority areas for the development of science, technology, engineering, sectors of the economy and social sphere (MIPT website "Priority 2030" "Leaders become" 2021, MIPT website "Priority 2030" "Strategic Project No. 2 "Research Leadership (from Bachelor to Nobel Laureate)" 2021). There is a strong competition among Russian universities to be a part of this Program.

## 2. COURSE DESCRIPTION

Here is an overview of the main regulations and features of the course. The proposed program is an interdisciplinary (Hejazi 2022) author-developed project, which has no analogues in Russian higher education, it is conducted entirely in English, encompassing the latest theoretical and practical research, experience and technologies in the field of psychology, sociology, management, education, linguodidactics. Teaching materials are taken from authentic literature and audio/video materials. When preparing assignments, teachers also use their own linguistic, methodological and translation experience, administrative, teaching and technical skills in domestic and foreign universities and companies, constantly improving their pedagogical skills in external and internal advanced training courses (Kartushina 2020).

### 2.1. Main features

The course includes themes related to the concepts of leadership, teamwork, common goals, decision making, taking risks, success in life, including professional one, all these taught in English. It also covers effective communication, problem-solving, adaptability and time management. These topics are essential for developing well-rounded individuals who can thrive in various aspects of their lives. The leadership component of the course delves into different leadership styles, strategies and techniques. It explores the qualities of successful leaders and teaches students how to inspire and motivate others, foster collaboration, and create positive work environment. Teamwork is emphasized throughout the course, focusing on building strong relationship, resolving conflicts and leveraging diverse strengths of the team members. Students learn the importance of collective efforts and how to contribute effectively to the team's goals. Setting common goals is another

significant aspect of the course. Students are taught how to establish clear objectives, align them with the team or organization's vision and create actionable plans to achieve those goals. Decision making is a critical skill covered in the course, encompassing both individual and group decision-making processes. Students learn various decision-making models, explore factors that influence choices and practice making informed decisions in different scenarios. Taking risks is also addressed, as it is an integral part of personal and professional growth. The course helps students develop a healthy approach to risk-taking, teaching them how to assess potential outcomes, manage uncertainty, and embrace calculated risks to achieve the desired results. Success in life, a broad and subjective concept, is explored in the course by discussing personal fulfillment, happiness and overall well-being. Students learn about setting and pursuing meaningful goals, maintaining a healthy work-life balance, and cultivating habits that contribute to long-term success and satisfaction. In addition to these core topics, the course may incorporate case studies, real-world examples and interactive activities to reinforce the theoretical concepts and provide practical applications. Native English Language guest speakers, workshops and group projects conducted in English are also included to enhance the learning experience and foster collaborative and engaging environment.

## **2.2. Entry requirements**

The course is designed for two semesters and is taught to the first-year students of the Master's program, it includes four academic hours per week and ends in a pass-fail credit in the first semester and a graded exam – a presentation of a team startup in the field of the students' scientific specialization. Language study groups are formed based on the results of 1) MIPT undergraduate program and 2) specially designed tests for MIPT non-graduate students (testing is conducted at the beginning of the academic year). The groups accommodate students whose knowledge of English language is B2-C1 level. The average language group consists of 10-12 people, which significantly increases the efficiency of mastering the educational material and makes it possible to combine the forms of work (individual, pair work, work in small and large groups, the whole class work) in the classroom as much as possible. Due to effective planning and interaction, the MIPT administration managed to harmonize the class schedule, namely, to set convenient days and time for students when they are free from the classes at their industrial chairs, specialized departments and research laboratories which significantly improved the efficiency and attendance of the classes. While conducting an English lesson, health-saving educational technologies are also used: language tasks are distributed evenly, taking into account the types of speech activity; organizational forms of training vary; educational materials are printed for each lesson to be used in the classroom; the material is also fully presented in an electronic form on the Moodle platform, which is very convenient for demonstration by teachers on interactive whiteboards and for those students who have an opportunity to bring and use their personal electronic devices in class.

## **2.3. Outcome**

The course turns out to be one of the most difficult, and, at the same time, the final language training at educational process offered by MIPT. It is focused on improving all types of foreign language speech activities with an emphasis on conversational practice for participating in debates, competitions, conferences, projects and startups, where each

student can develop his/her potential and leadership talent. By being actively engaged in these foreign language-intensive opportunities, students not only enhance their communication skills but also cultivate the essential qualities necessary for effective leadership. If a student has the ability to lead people, has charisma and persuasion skills, is a strong authority and example for others, knows how to make decisions, admit and correct his/her mistakes, he/she can become a sought-after and successful professional. To form these competencies in students in theory classes, the concept of leadership, the behavior and traits of a leader, management styles, teamwork, conflict resolution, and ways to achieve success are considered. The practical part includes case-studies, an analysis of typical situations of leadership in solving various problems, presentations of students' personal experiences and educational games.

### 3. SIGNIFICANCE OF THE COURSE

The originality of the course is not only in forming leadership qualities through a foreign language but it also lies in the fact that the course combines face-to-face and interactive teaching methods, incorporating both traditional classroom instruction and e-learning components. This approach ensures a dynamic and engaging learning experience for students. By blending these two approaches, the course offers a unique and diverse learning environment that leverages the advantages of both traditional and digital platforms (Revvo 2022: 94). The face-to-face classes provide direct interaction between students and instructors, fostering real-time communication, immediate feedback, and the opportunity for in-depth discussions. This traditional teaching method allows for a personalized learning experience and promotes active engagement among students. On the other hand, the course also integrates e-learning components, utilizing digital tools and resources to enhance the learning process. This includes online modules, multimedia materials, and interactive exercises. The e-learning aspect adds flexibility and convenience, enabling students to access course materials and participate in activities outside of the physical classroom. It also provides opportunities for self-paced learning, additional practice, and the utilization of technology-based tools that can enhance foreign language acquisition. By combining face-to-face and interactive teaching methods, the course embraces the benefits of both approaches, creating a comprehensive and innovative language and leadership and communication learning environment. This allows students to benefit from the best of both worlds, fostering meaningful interactions and leveraging technology to support their language development and overall educational experience.

Mastering the material is not limited to lessons in the traditional way. In fact, the course curriculum goes beyond traditional classroom learning, incorporating a unique competition that fosters communication in a foreign language through student-led projects with social or research significance taking into consideration leadership and communication aspects. For instance, students are encouraged to propose and develop projects that contribute to the betterment of society or make a significant impact in research, scientific endeavors, or industrial organizations. This approach allows students to apply their language skills in practical, real-world contexts, enhancing their understanding and proficiency. A vivid example of such a competition is the one held in spring 2023 [https://mipt.ru/news/fiztekhi\\_popraktikovalis\\_v\\_liderstve](https://mipt.ru/news/fiztekhi_popraktikovalis_v_liderstve). Students appreciated this competition highly stressing its linguistic and professional components, a chance to share and

discuss the newest technical achievements in their sciences in public, among their peers; sometimes the teams comprised individuals from multiple disciplines (Bazanova et al 2023: 105) which is quite common and beneficial in science and industry.

Moreover, the course also recognizes the importance of leadership and communication in science, industry and education in various domains. It actively supports students' interest in participating in a student conference where they can present research papers and reports on the multifaceted aspects of leadership directly in their professional spheres. These reports cover a wide range of topics, including leadership as a phenomenon, leadership in their science, industry, and universities. The course aims to explore the synergy between these components and promote an interdisciplinary understanding of leadership's role in different fields related to the students' major.

By integrating project-based learning, language proficiency, and leadership development, the course provides a comprehensive educational experience that goes beyond traditional classroom settings. Students not only gain a deeper understanding of the subject matter but also develop vital skills such as effective communication in a foreign language in a multinational team, critical thinking, and problem-solving, which are crucial for their future academic and professional pursuits.

#### 4. STUDENTS' FEEDBACK

It is undoubtedly important for the authors and teachers of the course to understand the attitude of the students themselves to the course. It should be emphasized that MIPT is a leading university in Russia and is famous for its particular administration's attitude towards students' opinion including the one on teaching various disciplines, no matter if the latter are new or have been present in the curriculum for several years; updates are implemented in the course in case the students provide critical but justifiable feedback. The Foreign Languages Department of MIPT is also of the opinion that "if constructive student feedback is acted on and sufficient effort is made to implement changes, then courses can be successfully adapted to the benefit of both students and teachers" (Bury & Hair: 361). Thus, several surveys on the course were offered through the academic year, the latest spring survey is being under calculation at the moment. At the end of the autumn semester, a corresponding survey was conducted. 221 students took part in it.

Table 1 Survey results

	positive attitude	neutral/ undecided attitude	negative attitude	95% Wilson Score confidence interval for binomial test on percentage of positive outcomes
Acceptance of the growing importance of leadership in today's competitive business environment and requirements for quality leadership/management	173	25	23	[72.4%, 83.2%]
Satisfaction with leadership, usefulness of the course	137	39	45	[55.4%, 68.1%]

The survey result shows that more than half of the students are satisfied with the course. This measurement is statistically significant since the lower limit of the confidence interval is greater than 50% (Brown et al. 2001). Thus, with all the critical remarks expressed by the students, we should note the overall positive tone, interest in the topics covered and types of work in the lesson. In particular, students who came to the MIPT master's program from other universities speak extremely highly of the course – as an opportunity to express their opinion in a foreign language, the topics and forms of work are non-trivial for typical Russian Universities, there is a lot of information that expands the student's horizons.

## 5. CONCLUSION

The Master's course "Leadership and Communication in Science, Industry and Education" in English is successfully being taught. Its main features are relevance, interdisciplinarity, uniqueness. High efficiency was shown by the variation of forms and methods of teaching, the intensity of the educational process. Students note the cognitive and linguistic values of the educational material, the communicative orientation of tasks and the abundance of interpersonal communication within the framework of tasks, situational analysis.



Fig. 4 Students' feedback at the end of the course

DECLARATION OF COMPETING INTEREST. The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as potential conflict of interest.

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