

INTERNATIONAL MOBILITY IN TPU

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Presently international mobility in Russia has been actively developing and becoming very popular among the youth. There are many various international programs, such as «Work & Travel», «Global UGRAD», «FLEX» and others. All these programs are directed on the improvement of language skills, acquaintance with the culture of a new country and building international contacts. These are some of the many benefits of international mobility.

Nowadays, Tomsk Polytechnic University has been extensively progressing in this direction, cooperating with universities in many countries and providing numerous international mobility programs for the students. Thus the purpose of this article is to convey information about possibilities for participating in international mobility programs at Tomsk Polytechnic University.

Double Degree programs

All international programs at TPU can be differentiated into three categories. The first category is Double Degree programs, the second one is academic exchange programs, and finally short-time programs. All these types of programs have been designed to meet specific purposes.

The Double Degree program is an international program. Only graduate and postgraduate students are eligible for participation in such a program. This is due to the fact that students who will take the program will graduate from university with the degrees of European and Russian universities. For example, if a student has participated in Electric Power Generation and Transportation program in the Czech Republic he or she will graduate with a Master's degree of Science in Electrical Engineering, Power Engineering and Management issued from the European university.

Currently eighteen Double Degree programs in five countries are available for the students of Tomsk Polytechnic University. The countries include Germany, Great Britain, France, Czech Republic and Kazakhstan.

The duration of each program can range from one academic year to two years. Instruction for students TPU is carried out in Russian, English or German.

Academic Exchange programs

The most extensive category of international mobility programs at TPU is academic exchange programs. Annually the university offers programs in seventy university partners in twenty three countries which are located all parts the world. These programs are available for students of all majors: natural science, humanities, management, linguistics and others. Any student can participate in the programs, provided that he or she meets the outlined requirements.

All academic exchange programs continue for one or two semesters. A few university partners provide scholarships for students of TPU. In addition to that TPU offers two special scholarships for students who will participate in academic exchange

programs, but there are limitations in terms of the kinds of the programs. The languages of instruction for students of TPU are Russian, English, German, Chinese and French.

Specifically students of Institute of Power Engineering can participate in the program “Electrical Engineering and Information Technology” in Kyung Hee University located in South Korea. The basic conditions are presented in *Figure 1*.

Language of instruction	English
Duration of training	One semester
The approximate cost of living	Free
The approximate cost of food	From \$ 300 per month
Scholarship host university	No
Scholarship TPU	" P.L.Y.U.S. "

Fig. 1.

Another valuable option is the Czech Technical University in Prague, which is the oldest non-military technical university in Europe. The university offers eight academic exchange programs for TPU students, such as biomedical engineering, civil engineering, electrical engineering, mechanical engineering, nuclear science and physical engineering, etc. The basic guidelines for participation in programs are presented in *Figure 2*.

Language of instruction	English
Duration of training	One or two semester
The approximate cost of living	From 185\$
The approximate cost of food	From 185\$ per month
Scholarship host university	No
Scholarship TPU	" P.L.Y.U.S. "

Fig. 2.

For students of such majors as humanities, management, linguistics, there are also a number of academic exchange programs. One of the options is JiLin University in Changchun (for students who want to improve their skills in the Chinese language). The basic conditions for participation in program are presented in *Figure 3*.

Language of instruction	Chinese
Duration of training	One semester
The approximate cost of living	Free
The approximate cost of food	From 152\$ in one month
Scholarship host university	No
Scholarship TPU	" P.L.Y.U.S. "

Fig.3.

Short-time programs

The third category of international mobility programs in TPU are short-time programs. There are summer and winter short-time programs. They are run during

holidays. These programs are for improving language skills and acquiring new knowledge about a foreign language. The short-time programs can last from one week to 2 months.

Among these programs there is a program named TESS (T.I.M.E. European Summer School). The program is implemented in six European universities, among which are the Polytechnic University of Madrid (Spain), the University of Trento (Italy) and the Royal Institute of Technology (Sweden). The programs are designed for senior students in order to enhance their language skills.

Requirements

To be eligible for the participation in international mobility programs it is necessary to implement several requirements. The first is having an international passport; the second is having the minimal level of language proficiency B2 (except short-time programs). The third requirement is that the applicant should have good grades for all semesters. And finally, reference from the department is required.

To sum it up, we can see that international mobility in Tomsk Polytechnic University has been developed at a remarkable level. Everyone can see the advantages of these programs, because they give opportunities to explore the culture of another country and just make new friends all over the world. Moreover, international programs in TPU give a great chance for improvement of language knowledge and acquisition of new skills in the future profession. Each of TPU students can take the chance and participate in the programs.

ИСПОЛЬЗОВАННАЯ ЛИТЕРАТУРА

1. Электронный ресурс: <http://portal.tpu.ru/ciap>
2. Электронный ресурс: http://staracademy.ru/school_exchange_programs

POLARISATIONSSPEKTRUM

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Das sogenannte *Polarisationsspektrum* das auf mehrfachen Rückkehrspannungsmessungen mit schrittweiser Erhöhung der Lade- und Kurzschlusszeiten t_p und t_d bei konstantem Verhältnis t_p/t_d basiert, stellt das einzige bisher bei Transformatoren in größerem Umfang eingesetzte Verfahren dar.

Die Auswertung des Polarisationspektrums basiert auf einem formalen Ersatzschaltbild aus mehreren parallel geschalteten RC-Seriengliedern, die Zeitkonstanten unterschiedlicher Polarisationsvorgänge repräsentieren sollen.

Durch die unterschiedlichen Lade- und Entladezeiten sollen die unterschiedlichen Zeitkonstanten separiert und eine sogenannte „dominante Zeitkonstante“ bestimmt werden. Dieses Modell besitzt jedoch keinen direkten Bezug zur physikalischen Realität mit der Grenzflächenpolarisation als maßgeblichem Effekt,