### Master’s degree program
**Resource-saving building materials technologies**

#### Key facts
The program is designed for students with experience in the construction industry and for those who wish to pursue a career in the construction industry. The program is aimed at developing students' research skills as part of an individual research project in the field of building materials technology and the construction industry using modern techniques and the latest achievements in resource conservation through the integrated use of raw materials, modern equipment and technological methods. Students will follow all stages of the research process from problem statement to achievement and analysis of experimental results. As the program focuses on developing practical skills, students work in SibFU’s modern and well-equipped building materials testing laboratory.

<table>
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<tr>
<th>Program length</th>
<th>2 years</th>
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<tr>
<td>Starting date</td>
<td>September, 1st</td>
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<tr>
<td>Language of instruction</td>
<td>Russian</td>
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| Prerequisites | - Bachelor's Degree in construction or its equivalent (a copy of the diploma of previous higher education and a transcript of academic records)  
- a letter of motivation and letters of recommendation may also be required |
| Tuition fee per year | - |
| Program leader/team | Valentina Shevchenko, Cand.Sc. (Engineering), professor, Department of Building materials and Construction Technologies, School of Engineering and Construction  
Irina Yendzhievskaia, Cand.Sc. (Engineering), assistant professor, head of the Department of Building materials and Construction Technologies, School of Engineering and Construction  
Nina Vasilovskaia, Cand.Sc. (Engineering), assistant professor, Department of Building materials and Construction Technologies, School of Engineering and Construction  
Galina Vasilovskaia, Cand.Sc. (Engineering), assistant professor, Department of Building materials and Construction Technologies, School of Engineering and Construction  
Sergey Druzhinkin, Cand.Sc. (Engineering), assistant professor, Department of Building materials and Construction Technologies, School of Engineering and Construction |
| Qualification | Master of Science |
| Skills/objectives | - Study of the chemical nature and technological properties of potentially suitable raw materials based on secondary products of various industries for the production of various building materials;  
- mastering modern research methods of analyzing the results obtained in the field of studying the properties of building materials;  
- ability to work with the latest achievements of science and practice in the field of building materials technology;  
- development of new resource-saving technologies for building materials, including the choice of modern equipment that provides automation and computerization of technological processes;  
- teaching activities; |
| Curriculum | Philosophical problems of science and technology;  
Math modeling;  
Special sections of higher mathematics;  
Research methodology;  
Business foreign language; |
Fundamentals of pedagogy and androgogy;
The use of by-products in the technology of production of mineral binders;
Aggregate and Recycled Concrete Technologies;
Modern technologies and equipment for the production of building ceramics;
Road construction materials using by-products;
Modern technological equipment for the production of building materials;
Physicochemical basis for the use of secondary resources;
Radiological and environmental support of secondary raw materials;
Economic and environmental aspects of the use of by-products;
Physicochemical methods for studying the properties of by-product industry;
Special methods for studying the properties of raw materials;
Automation of technological in the production of building materials;
Secondary raw materials and the mechanism of their formation;
Ecological and economic modeling;
Resource-saving technologies of wall materials;

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