

## 1. *St.Petersburg State Polytechnical University*



**SPbSPU was founded in 1899. There are 30197 students and postgraduates, 2916 of them are foreign citizens from 96 countries.**

**The University is carrying out education in the following areas: engineering, physics, economics, humanities and information technologies.**

**The University trains specialists in:**

- **36 Bachelor degree programs,**
- **188 Master degree programs,**
- **88 PhD programs,**
- **88 Doctorate programs.**

## ***2. The Polytechnical University structure***

**The Polytechnical University structure includes 12 Institutes.**

### **Technical Institutes:**

- 1. Civil Engineering and Construction (!!!)**
- 2. Energy and Transport systems**
- 3. Metallurgy, Machinery and Transport**
- 4. Informational Technology and Management**
- 5. Military-Technical and Security Education**
- 6. Institute of Machinery «LMZ-VTUZ»**

### **Physical Science Institutes:**

- 1. Physics, Nanotechnology, and Telecommunications**
- 2. Applied Mathematics and Mechanics**

### **Economic and Humanitarian Institutes:**

- 1. Engineering Economics**
- 2. Humanitarian Education**
- 3. Applied Linguistics**
- 4. International Educational Programs**

### ***3. Civil Engineering and Construction Institute***

The Institute was founded in 1907. Since that time it aims to prepare specialists in sphere of civil engineering, hydraulic engineering construction, engineering protection of environment. There are 2451 students and postgraduates, 126 of them are foreign citizens.

#### **BACHELOR DEGREE DIRECTIONS**

- **Civil Engineering and Construction engineering**
- **Environmental and water use**
- **Hydrotechnical Construction**

#### **MASTER DEGREE DIRECTIONS**

- **River and underground hydraulic engineering constructions**
- **Marine hydraulic engineering constructions and navigation**
- **Theory and design of buildings and constructions**
- **Environment quality management methods**
- **Construction of landscape architecture objects**
- **Landscape arrangement of territory**
- **Technical maintenance and reconstruction of buildings and constructions**
- **Theory and practice of organizational-technological and economic solutions in construction**
- **Organization and management of investment and construction projects**
- **Computer-aided design of buildings and structures**
- **Engineering systems for buildings and structures**
- **Theory and computer simulation techniques in structural calculations**

## 4. *Cross institutional module sharing on master degree program*

### 4.1. *What to share*

The Institute has the **Civil Engineering** master program with education in English (starting in September 2013).

We suggest sharing our modules of this master program to be used by other partners.

We hope that other partners will share Bachelor programs modules and PhD programs modules for us to be used.

# We Share!



***4.2. The list of our modules is:***

<b>Modules</b>
<b>In-Service Strength and Reliability of Structures</b>
<b>Information Technologies in Civil Engineering and Construction</b>
<b>Building Structures</b>
<b>GIS - technologies for civil engineering</b>
<b>Structural Dynamics</b>
<b>Designing of Structural Elements</b>
<b>Pedagogy and Androgogics</b>
<b>Mathematical Modeling</b>
<b>Project Management</b>
<b>Property Economy</b>
<b>Construction technologies</b>
<b>Research methodology</b>
<b>Building Energy Efficiency</b>
<b>Water facilities</b>
<b>Construction ecology</b>
<b>Building Materials</b>
<b>Modes of Renewable Energy Using</b>

***4.3. An example of the internal structure of the module is given here:***

**Introduction: Reliability of Technologies**

**Service Life Prediction in the Design Phase**

**Assessment of the Residual Life**

**Elements of Theory of Probability**

**Random Events and Random Variables**

**Probability Distributions. Evaluation of Statistics of a Random Process**

**Elements of Theory of Reliability**

**Theory of Reliability. Terms and Elements**

**Problems and Models of Theory of Reliability**

**Basics of Statistical Dynamics. Spectral Method**

**Elements of Spectral Analysis of a Stationary Random Process**

**Wiener-Khinchin Theorem. Evaluation of the Output Process Statistics**

**Service Loads**

**Classification of Service Loads on Structures**

**Spectral Characterization of Loads**

**Fatigue Behavior of Materials and Structural Components**

**Fatigue Characterization of Structural Materials**

**Principles of Modeling Fatigue of Structures**

**Current Approaches to Fatigue of Structures in Design and in Service Conditions**

**Principles of Organizing the In-Service Reliability of Structures**

**Techniques of Experimental Evaluation of the Reliability Parameters**

**Principles of Monitoring the In-Service Reliability of Structures**

## 5. Dissemination preparing

The Civil Engineering Institute published the following scientific and technical journals:

# Magazine of Civil Engineering



scientific and applied edition

"Magazine of Civil Engineering" (ISSN 2071-0305, 2071-4726) [www.engstroy.spb.ru](http://www.engstroy.spb.ru) is a peer-reviewed open-access scientific and technical journal.



Строительство уникальных зданий и сооружений  
Construction of Unique Buildings and Structures

Journal "Construction of Unique Buildings and Structures" (ISSN 2304-6295) [www.unistroy.spb.ru](http://www.unistroy.spb.ru) publishes scientific articles, analytical reviews, information on new equipment, materials, equipment, technologies and results of their practical application, educational and training materials about civil engineering.

**As the dissemination preparing we have publish 12 articles with the mention of the project  
530603-TEMPUS-1-2012-1-LT-TEMPUS-JPCR:**

1. Professional development for design and construction of especially dangerous, technically difficult and unique objects / Rechinskiy A.V., Strelets K.I. // Construction of Unique Buildings and Structures, 2012, №1, pp. 73-75.
2. Professional retraining of specialists in the construction industry in the light of the concept of “Education through all life” Rechinskiy A.V., Strelets K.I. // Construction of Unique Buildings and Structures, 2012, №1, pp. 68-72.
3. The theory of granular mediums in building and problems of its application / Zayats O.I., Badanin A.N., Krotov A.V. // Construction of Unique Buildings and Structures, 2012, №1, pp. 22-27.
4. Footway bridges: coldformed steel cross-section / Vatin N.I., Sinelnikov A.S. // Construction of Unique Buildings and Structures, 2012, №2, pp. 1-12.
5. International Polytechnical Summer School “Civil Engineering and Design” in SPbSPU / Arseniev D. G., Vatin N. I., Vysotskiy A. E. // Construction of Unique Buildings and Structures. 2012, №5, pp. 1-5.
6. Education in construction safety area / Gamayunova O. S., Ershov V. V., Iljin A. A., Li S. K., Sokolov B. V. // Construction of Unique Buildings and Structures, 2012, №5 31-35.
7. International cooperation in construction education and science / Arseniev D.G., Vatin N.I. // Construction of Unique Buildings and Structures. №2, pp. 1-5.
8. The use of SCAD soft in education on Structural mechanics, Elasticity theory, Structural dynamics for ten years. Lalin V. V., Konstantinov I. A., Lalina I. I. Construction of Unique Buildings and Structures. 2012, №5, pp. 26-30.
9. The theory of granular mediums in building and problems of its application / Zayats O. I., Badanin A. N., Krotov A. V. // Construction of Unique Buildings and Structures. 2012, №1, pp. 22-27.
10. Inspection of wooden building Villa Annala / Pollock E., Laukkanen M., Walter O., Spiridonova T.I., Tarasova D.S., Kalbus E-S., Hänninen A., Vainio L., Isosomppi K., Rasilainen A. // Construction of Unique Buildings and Structures. 2012, №4, pp. 12-25.
11. Unknown properties of the well-known material / D.V. Nemova, T.I. Spiridonova, V.G.Kurazhova // Construction of Unique Buildings and Structures. 2012, №1 36-46.
12. Long span footway bridges: coldformed steel cross-section / Vatin N.I., Sinelnikov A.S. // Construction of Unique Buildings and Structures. 2012, №1, 47-52.