MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

Federal State Autonomous Education “Ural Federal University named after the first President of Russia B.N. Yeltsin”

Institute of Construction and Architecture

Signed and Approved

Vice-rector for Research

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ V.V. Kruzhaev

«\_\_\_» \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2018 г.

COURSE PROGRAM

**SCIENTIFIC RESEARCH SEMINAR**

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| **Information about the course program** | **Accounting data** |
| **Education program**The main education doctoral graduate program | **Specialty code**08.06.01/09.11 |
| **Major**Engineering and Construction Technologies**Training program**Water supply, sewerage, engineering of water resources protection systems | **Training program code**08.06.01 |
| **Level of training**Highly qualified personnel |
| **Federal State Educational Standard** | **The Ministry of Education and Science of the Russian Federation approval FSES HE order details:**July 30, 2014 No. 873(revised April 30, 2015) |

**Ekaterinburg**

**2017**

1. **GENERAL CHARACTERISTIC OF THE course**

**Research seminar**

* 1. **Abstract of the course content**

The research seminar is an active form of conducting research work by a graduate student, designed to:

- develop skills and competencies of research and information-analytical work in the process of preparing the WRC;

-make research information-analytical work a permanent and systematic element of the educational process;

The program regulates the order and forms of the practice of graduate students in full-time education.

The research seminar is provided by the curriculum of the specialty and is conducted at the graduating department.

The main goal of the research seminar is a systematic and comprehensive public testing of scientific hypotheses, concepts and projects of graduate students, their involving into the scientific community, the formation of the individuality of the young scientist, mastering the style of scientific activity

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Main tasks:

- maintenance of planning, updating and control of performance of information-analytical and scientific-research work of the post-graduate student;

- formation of academic and research skills, ability to conduct scientific discussion, and ability to present the results of research in various forms;

- assessment of the level of acquired knowledge, skills and the formation of competencies of the graduate student and their readiness for professional activities in the field of urban development.

The seminar is held in an open format with the participation of graduate students and their scientific supervisor, professors of the department, as well as invited scientists and specialists and employees of the UrFU.

The seminar is held at the end of each semester. The specific subject, form and date of the seminar is determined by the head of the department in agreement with the scientific supervisors of postgraduate students.

The scientific-research seminar is held within the framework of discussion of works on the topics of research work of graduate students of the Department. Forms of seminars are:

- presentation (report) of the results of the independent work of postgraduate students, containing (varies depending on the stages of work, research topics): analysis of existing points of view, research methods, results on the topic of WRC;

- discussion on the concept, the plan for the research model of the postgraduate student's WRC;

- discussion of results of researches of post-graduate students;

- short-report (presentations, master classes, author's lecture courses) of leading scientists, specialists in promising developments, tendencies in the development of town-planning science.

1.3. **Planned learning outcomes**

The result of the training within the discipline is the formation of the following competencies for the graduate student:

Universal competencies:

* willingness to join Russian and international research teams to take part in researches solving scientific and scientific-educational problems (UC-3);
* the ability to plan and solve the tasks of one's own professional and personal development (UC-6).

General professional competence:

* possession of the methodology of theoretical and experimental research in the field of architecture (GPC -1);
* the ability to professional use of modern research equipment and instruments (GPC -3);
* the ability to create an idea, design a project (structure, methodology, etc.) of a holistic scientific study, conduct self-investigation, if necessary, modify the original design (GPC -4);
* the ability to present the results of their research professionally in the form of scientific publications and presentations (GPC -5);
* the ability to develop new research methods and their application in independent research activities in the field of architecture, with respect to copyright (GPC -6);
* willingness to organize the work of the research team in the field of architecture (GPC -7);
* readiness for teaching activities in the main educational programs of higher education (GPC -8);

Professional competencies:

* the ability to develop physical and mathematical models of objects and processes in the design of engineering structures, structures and processes (PC-1);
* the ability to analyze and synthesize engineering structures, technologies and structures, develop new ones and develop existing methods for their calculation and optimization (PC-2);
* readiness to use modern software of design and calculation systems, knowledge of programming languages ​​in the field of design and technological preparation, means of automated product design, systems and processes (PC-3);
* the ability to develop technical tasks and feasibility studies for the creation of knowledge-based research on the development of social and engineering and transport infrastructure of cities (PC-4);

As a result of mastering the discipline, the graduate student must:

Know: methods of analysis, processing and presentation of scientific and professional information

To be able: to conduct scientific research: collection of empirical and analytical material and its theoretical generalization; the promotion of scientific hypotheses, their development in theoretical systems and justifications;

To have (demonstrate skills and experience): skills of professional and scientific and analytical activities, to carry out managerial and project activities in relation to objects

**7. METHODICAL AND INFORMATION SUPPORT**

**7.4. Search systems, databases, information and reference systems**

1) Search system «Google» (https://www.google.ru/). Free access from the Internet.

2) Search system «Scholar Google» (https://scholar.google.ru/). Free access from the Internet.

3) Electronic Scientific Archive of UrFU (http://elar.urfu.ru/). Free access from the Internet.

4) Scientific electronic library «eLIBRARY.ru» (http://elibrary.ru/). Free access from the Internet.

5) Scientific electronic library «CyberLeninka » (http://cyberleninka.ru/). Free access from the Internet.

6) Full-text database "SpringerLink" (https://rd.springer.com/). Free access from the UrFU corporate network.

7) Scopus reference database (http://www.scopus.com/). Free access from the UrFU corporate network.

8) The Abstract Database "Web of Science Core Collection" (http://apps.webofknowledge.com/). Free access from the UrFU corporate network.

9) Electronic library system “Lan” (http://e.lanbook.com/). Access: 1) free from the UrFU corporate network; 2) remote access via the Internet using logins and passwords. To obtain a login and password, you must register using any computer on the UrFU corporate network.

10) University Library Online Electronic Library System (http://biblioclub.ru/). Access: 1) free from the UrFU corporate network; 2) remote access via the Internet using logins and passwords. To obtain a login and password, you must register using any computer on the UrFU corporate network.

11) Electronic library system "Library Packer" (http://www.bibliocomplectator.ru). Access: 1) free from the UrFU corporate network; 2) remote access via the Internet using logins and passwords. To obtain a login and password, you must register using any computer on the UrFU corporate network.

12) Electronic database Polpred.com (http://polpred.com/). Access: 1) free from the UrFU corporate network; 2) remote access via the Internet using logins and passwords. To obtain a login and password, you must register using any computer on the UrFU corporate network.

13) Professional reference system"TechExpert". Access from any computer of the UrFU corporate network via the link posted on the Internet site of the National Security Service of UrFU (http://lib.urfu.ru/).

**7.5.Electronic educational resources**

1. <http://window.edu.ru>)

**8. base of materials for current academic performance Evaluation and interim assessment**

*not provided*