

Forms of Assessment, Exam Requirements and Rules, Acting in  
the FSAEI of HE "SPbPU"

Various forms of assessment are applicable to the students: exams with examination papers in oral and written form, control tests, individual and group presentations, tests with multiple choice questions and question/answer tests, case studies, oral presentations, course projects, course papers etc. The assessment system adopted in SPbPU is a five-mark grading system from 2 to 5, where 2 is "failed", 3 is "satisfactory", 4 is "good", 5 is "excellent".

For the foreign students who study in SPbPU by academic mobility programs, the teacher gives a mark according to the five-mark grading system and duplicates this mark in the ECTS system (A, B, C, D, E, F), which are represented in the transcript of records.

Quality assessment of the Masters' training includes formative assessment, interim assessment and final state attestation (defense of the final qualification work).

**Formative assessment** is done during a module or semester, mostly in written form and is aimed at organization of students' independent work and systematic check-up of their knowledge. The forms of formative assessment include home assignments, tests, summaries, essays, colloquiums and other types of independent work according to the curriculum and schedule of the educational process. The forms of formative assessment are consistently recorded in the discipline syllabus.

Completion of each form of formative assessment is graded by the teacher and the mark is registered in the official transcript. According to the results of formative assessment, the departments organize individual consultations in the second half of the teacher's working day. It has to be noted that phasing of the presentation of the material and subsequent check-up of how it has been learned is a necessary condition for building up a strong foundation both for learning one discipline and further mastering of other disciplines which use concepts, formulas and ideas from the previous one. So, for some disciplines, assessment is done on the basis of "limiting factors" - in case there is no sound knowledge about a number of issues or personally completed works, giving evidence about such knowledge (course papers, summaries, oral presentations, etc., depending on the syllabus of a discipline), the integral mark is considered unsatisfactory. This method is successfully used as a system of permits (for an exam, academic assessment, or defense of final qualification work).

Interim assessment (interim attestation) is done upon termination of a period of study (module or semester) if a course unit is taught for more than one period. Interim assessment is mostly carried out in written form. Interim assessment is done in the form of academic assessment or exam.

If a course unit is taught for one period of study (module or semester), no interim assessment is carried out.

Final assessment (defense of a Master's thesis) is aimed at evaluating the learning outcomes as a whole. At the same time all the universal and professional competences acquired by the student are assessed. Defense of the Master's thesis allows checking how all the competences of the study program have been mastered.

Midterm examination as a separate type of performance control is not taken, although it may be introduced in the form of a test.

Among types and forms of assessment there are also those below.

Oral forms of assessment:

– oral enquiry – are applied at lectures or practical classes, before laboratory projects (to make sure that a Master's student is ready for work).

Written forms of control: written control works (in the form of tasks or tests), essays, reports on laboratory projects (one report per project), reports on practical training, research work – the obtained results can be transformed in presentations for scientific conferences and symposiums, for example, annual "Week of Science in SPbPU", course paper or course project, tests.

Technical forms of assessment:

– training tasks.

The forms and procedures of the exams and the procedure of appeal statement submission and consideration are regulated by the Provision on formative performance control and interim attestation of the learners, approved by SPbPU rector's order N 1346 as of 24.11.2015 (available at link: <http://www.spbstu.ru/upload/documents/education/provision-monitoring-progress.pdf> ).

Exams and academic assessments are done in the disciplines of the approved curriculum. Knowledge, abilities and skills of a student are defined with the marks "excellent", "good", "satisfactory", "unsatisfactory", "passed" and "failed".

The form of attestation by a discipline (academic assessment, exam) is determined by the curriculum. Exams are taken in the periods of examination sessions stipulated in the curriculum, approved by the vice-rector for academic activity.

If in the curriculum theoretical or practical courses finish earlier than the examination session begins, then exams and academic assessments in the course units may be done during the semester. Herewith, all the necessary conditions are ensured for taking an exam or academic assessment. Reporting on this subject is generalized at the end of the session with all the passed disciplines.

Students, who are allowed to study by an individual schedule within the general period of education, can take academic assessments and exams in the inter-seasonal period in the terms set by the director of the institute.

Exams and academic assessments must ensure the capabilities for real control of knowledge and skills in accordance with the syllabus of a course unit.

In every educational process, there is a list of individual and group assignments, fulfillment of which is seen as an obligatory element of the course learning and, at the same time, as a form of formative assessment of knowledge and skills. The results of such assignments are considered in the final assessment by the relevant course.

An exam can be taken in an oral form, as a written paper or a test. Assessment means are approved at a meeting of the department in the current academic year and are signed by the head of the department. The learners are informed about the list of exemplary questions, tasks and assessment criteria.

The number of questions included in an exam paper must be not less

than 2 and no more than 5. The tasks may have a theoretical or practical character. The exam may include common tasks, which were worked through during classes in the semester or in the process of independent work. The contents of the questions and tasks included in an exam paper must correspond to the syllabus of the discipline

Exams are taken in accordance with the approved schedule, defining the time and place where they are to be taken. The schedule is drawn up based on the distribution of the teaching staff per academic year and is approved not later than 10 days before the exams start. Not less than three days are given to the learners' to prepare for the exams by every discipline. The schedule becomes available for the teachers and learners not later than 10 days before the exams start. The exam schedule is put on the information stand and is sent to all the students and teachers by e-mail.

Before an exam, consultations are provided for every group, which are included in the exam session schedule and are given by the teachers giving lectures in the discipline.

Non-attendance is registered in the exam transcript with the words "non-attendance" and is witnessed by the teacher's signature.

If a learner breaks the classroom discipline during an exam take or retake (using cheat notes or other sources of information, use of mobile communication means, laptops, tablets, audio players, other technical devices), violates the Internal Code of Conduct, tries to falsify documents, the teacher has the right to remove the learner from the exam and register an "unsatisfactory" mark in the exam transcript.

The procedure for the state final attestation on Higher Educational Programs – Bachelor's programs, Specialist's programs, and Master's programs is approved by the order of the RF Ministry of Education and Science N 636 as of 29.06.2015 (the document is available at the link: [http://www.spbstu.ru/upload/dmo/order\\_636\\_29\\_06\\_15.pdf](http://www.spbstu.ru/upload/dmo/order_636_29_06_15.pdf)). The Provision on Final State Attestation Procedure on Higher Educational Programs – Bachelor's programs, Specialist's programs, and Master's programs is approved by SPbPU rector's order N 530 as of 08.04.2016 (the document is available at the link: <http://www.spbstu.ru/upload/dmo/gia-2016.pdf> ).

Final state attestation (FSA) of the learners takes the form of:

- a state exam;
- defense of the final qualification work (hereinafter jointly referred to as final attestation tests).

State exams are taken in several disciplines of the study program, which learning outcomes have a definitive significance for the professional activity of the graduates. A state exam is taken in written form.

Disciplines included in the final state exams:

- Thermal power plants;
- Combined heat and power plants and gas turbine plants;
- Boiler plants;
- Energy machines. Turbines.

The results of every state attestation test are defined by the marks "excellent", "good", "satisfactory", "unsatisfactory". The marks "excellent", "good", "satisfactory" mean that the final attestation test was successfully passed.

If the final state attestation is successful, the learner obtains a higher education and qualification document in the format approved by the Ministry of Education and Science of the Russian Federation (Part 4, Article 60 of the Law on Education).

The final qualification work (FQW) is a Master's thesis.

A Master's thesis is aimed to show:

- the level of professional and general educational competence of a graduate in the relevant Master's program;
- an ability to learn and generalize literature sources in the relevant field of knowledge;
- an ability to do independent scientific research, carry out project works, systematize and summarize factual material;
- an ability to independently justify the conclusions and practical guidelines as a result of the undertaken research studies.

A Master's thesis must be a complete scientific research paper, which contains solution to a theoretical or practical problem, be internally consistent and give evidence about the author's ability to carry out independent scientific work with the use of theoretical knowledge and practical skills. It must include development of a new or modernization of an existing technological process, improvement of individual parameters or a technological process, research and development of new structures of mechanisms or individual engineering units, theoretical research by profile of the Master's program, development of new methods and devices for analysis and control, etc.

A Master's thesis must include the statement of the topicality and novelty of the theme, revision and analysis of the literature, a method and results of the research, conclusions and recommendations, and references.

The theme of a Master's thesis is formulated by the academic advisor and is approved by the head of the department, from which the Master is graduated. The theme of the Master's thesis may be continuation of the research previously carried out by the student or continuation of the Bachelor's thesis. The Master's student has the right to choose the stream of the scientific paper, up to proposal of their own theme with the necessary justification of the reasonability for its development.

The theme of a Master's thesis must be topical, correspond to the current state of scientific, process and technology development by the graduate major. The stream of the scientific paper, theme of the Master's thesis and academic advisor are determined individually for every Master's student and approved at a meeting of the department. The chosen theme and the academic advisor are to be approved by the rector of the higher educational institution.

Apart from assigning the theme of the Master's thesis to the student, the process of thesis development includes the following stages:

- a) compilation of the assignment and selection of the stream for research;
- b) theoretical and practical research studies;
- c) evaluation of the research results and preparation of the thesis;
- d) preparation for defense;
- d) defense of the thesis.

A Master's thesis is defended publicly at a meeting of the state examination board (SEB). The major objective of the SEB is to ensure professional objective assessment of the scientific knowledge and practical skills (competences) of the Master's program graduates based on the expertise of the Master's thesis contents and assessment of the Master's students' skills to present and defend the main statements of their Master's theses.