

Name of the Discipline	Bachelor's thesis (15 ECTS)
Semester(s)	8
Responsible teacher	Yuldashev Urushbay , Doctor of Physical and Mathematical Sciences, Professor Abdullaev Elnur Akhmatovich, PhD, Associate Professor Parsokhonov Abdulkobi Gafurovich, PhD, Associate Professor Anarboyev Muhiddin Almanovich, PhD Associate Professor Nazarov Furkat Daminovich, PhD Associate Professor Akhmedov Erkin Rakhmonovich, PhD Associate Professor Nurullayev Orzikul Ubaevich, Senior Lecturer Olimov Orif Nosirovich, Senior Lecturer Narimanov Bakhodir Abdusalomovich, Senior Lecturer Ikromjon Munavvarovich Khonturaev, Senior Lecturer Kushakov Gulmurod Adilovich, Senior Lecturer Saodullayev Abror Saypullaevich, Senior Lecturer Mirzayev Uchkun Nazarkosimovich, Senior Lecturer Akhmedov Abdurauf Abdugani ugli, Senior Lecturer
Language of teaching/learning	Uzbek
Connection to the curriculum	Compulsory
Forms of teaching/learning	Bachelor's thesis
Academic workload (including contact hours and self-study)	Total work load: 450 hours
ECTS	15
Prerequisites	Introduction to the Specialty, Thermal engineering and hydropower, Theoretical Electrical Engineering, Electric drive, Electric machines, Electrical and Electronic Devices, Special electric machines, Automated electric drive, Mathematical Modeling and Design of Electric Machines, Automatic Control Theory, Operation of electrical machines and transformers, Power supply, Electrical networks and systems, Power management and optimization. Relay protection, Mathematical problems of energy, Alternative energy sources in the power supply system.
Discipline objectives / Learning Outcomes	<p>The purpose of the graduation thesis of graduates of higher educational institutions is to assess the theoretical knowledge and practical skills acquired by students during the educational process, as well as to determine their level of readiness to work as electrical power engineers and energy engineers.</p> <p>The main tasks of the graduation thesis are as follows:</p> <p>Assessment of the student's level of knowledge — to determine whether the student has sufficient knowledge, skills, and competencies in the subjects provided in the curriculum.</p> <p>Checking the level of preparation for the specialty — to assess the ability to solve professional problems, as well as critical and analytical thinking skills.</p> <p>Checking readiness for scientific and practical activities — through the graduation thesis, to demonstrate the student's ability to conduct independent research.</p> <p>Assessment of readiness for future professional activity — to determine the graduate's ability to be competitive in the labor market in their specialty.</p>
Lessons' contents	<p>1. Procedure for completing the graduation thesis:</p> <p>1.1. Objectives and Tasks of Completing the Graduation Thesis (Project)</p> <p>Completing the graduation thesis (project) is the final stage of the educational process for undergraduate students of the 60710400 – Power Engineering program. In the graduation thesis, the bachelor solves</p>

engineering-related problems that require applying all the knowledge acquired in various subjects to practical and industrial settings.

The objectives of completing the graduation thesis (project) are:

- To strengthen and expand theoretical and practical knowledge in the field of study, and to apply the acquired knowledge in solving specific scientific, technical, production, and economic tasks;

- To develop creative working skills and foster a sense of responsibility in making decisions—from the formulation of the problem (issue) being developed to its complete implementation;

- To ensure students' readiness for independent work in modern conditions of technological, industrial, economic, and technical development.

1.2. The Topic of the Graduation Thesis (Project)

The topic of the graduation thesis (project) must reflect the current state of the problem as well as the development of the economy, industry, and technologies.

The topic of the graduation thesis (project) is determined by the “Energy and Electrical Technology” department (hereinafter referred to as the department) and approved by the Academic Council of the “Energy Engineering” faculty. It is reviewed at the beginning of each academic year.

The annual list of graduation thesis (project) topics is announced by the department before the start of the pre-graduation internship or at the beginning of the final academic year.

Students are given the right to choose the topic of the graduation thesis (project) (in descending order of their academic rating). The student or the sponsoring organization that pays the student's tuition contract may, with valid justification, propose their own topic variants for the graduation thesis (project).

The topic of the graduation thesis (project) and its supervisor are assigned to the student based on the department's recommendation and formalized by an order of the institute rector.

The supervisor of the graduation thesis (project), in accordance with the topic, gives the student instructions for collecting the necessary materials related to the thesis (including during the period of the qualification internship).

The format of the assignment is determined by the institute's Educational and Methodological Department. The assignment is submitted to the State Attestation Commission together with the graduation thesis.

1.3. Execution of the Graduation Thesis (Project)

The graduation thesis (project) is completed in specially designated rooms of the department. In certain cases, when appropriate, the graduation thesis (project) may also be completed at enterprises, institutions, research centers, design organizations, and other relevant institutions.

The deadlines for reporting on the progress of the graduation thesis (project) are monitored by the faculty dean's office. Within the deadlines set by the dean's office, the student reports on the progress of the thesis to the supervisor and the head of the department. The head of the department evaluates the readiness level of the graduation project. For this purpose, the department organizes monitoring of the progress of each student's project, and its completion status is determined weekly based on the supervisor's reports, expressed as a percentage.

The student-as the author of the work-is responsible for the correctness and compliance of the chosen solution with the assignment, as well as for ensuring that the graduation project contains no plagiarism.

In cases where delays are identified during the stages of completing the graduation thesis (project), appropriate measures to eliminate them are determined by the head of the department.

1.4. Defense of the Graduation Thesis (Project)

The graduation thesis (project), prepared in accordance with the established requirements, is submitted by the student to the supervisor. After the supervisor confirms that the work has been completed to the required standard, the project-together with the supervisor's review—is

	<p>submitted to the head of the department. The review describes the student's activity, innovations in the decisions made, and other positive aspects of the graduation thesis. Based on the submitted materials, the head of the department decides whether the student's graduation thesis (project) should be admitted for defense before the State Attestation Commission (SAC).</p> <p>If the head of the department considers that the student's graduation thesis (project) cannot be admitted for defense, the issue is discussed at a department meeting with the participation of the supervisor. The minutes of the department meeting are submitted by the faculty dean to the rector for approval. The graduation thesis (project) that is admitted for defense is sent for external review.</p> <p>The reviewers are selected from specialists working in organizations that employ graduates or are directly related to the topic of the graduation thesis (project). Professors and teachers of higher educational institutions may also be involved as reviewers.</p> <p>The faculty dean submits the graduation project to the SAC for defense along with his/her own review. The procedure for defending the graduation thesis is determined by the Regulation on the final state attestation of graduates of higher educational institutions of the Republic of Uzbekistan.</p> <p>Graduation theses (projects) that are proven-prior to the defense-to be copied exactly from archives, information-resource centers, department repositories, or online resources are annulled by an order of the rector based on the department head's submission. The student receives an unsatisfactory grade, and the supervisor is prohibited from supervising graduation works for the next three years.</p> <p>After the defense, the graduation thesis (project) is stored at the higher educational institution for at least 5 years. If, for various reasons, the graduation project needs to be submitted to other organizations (for implementation, competitions, etc.), a copy of the work is provided (the original remains at the higher educational institution).</p> <p>2. Structure and Scope of the Graduation Thesis (Project)</p> <p>2.1. Contents of the Explanatory Section of the Graduation Thesis (Project)</p> <p>2.1.1. Annotation</p> <p>2.1.2. Table of Contents</p> <p>2.1.3. Introduction</p> <p>2.1.4. Technological Calculations Section</p> <p>2.1.5. Special Technical Calculations Section</p> <p>2.1.6. Design Calculations Section</p> <p>2.1.7. Economic Section</p> <p>2.1.8. Labor Safety Section</p> <p>2.1.9. Ecology and Environmental Protection Section</p> <p>2.1.10. Conclusion</p> <p>2.1.11. List of References</p> <p>2.2.12. Appendices</p>
Exam form	Defense of the Graduation Thesis
Assessment Criteria for the Final State Certification and the Graduation Thesis (Project)	Graduates who are dissatisfied with the grade given during the final state certification process for the graduation thesis (project) have the right to appeal to the appeal commission within 24 hours from the date of

	<p>announcement of the final state certification results.</p> <p>Any issues that may arise between the final state certification commission and the student regarding the assessment results will be reviewed by a special appeal commission and finalized in agreement with the chairman of the State Attestation Commission (SAC).</p>			
Criteria for assessing student knowledge	5 grade	100 points		Assessment criteria
	5	90-100	Excellent	When a student is considered to be able to make independent conclusions and decisions, think creatively, observe independently, apply the knowledge he has gained in practice, understand, know, express, and narrate the essence of the subject, and have an idea about the subject.
	4	70-89,9	Good	When the student is considered to be able to observe independently, apply the knowledge he has gained in practice, understand, know, express, and narrate the essence of the subject, and has an idea about the subject.
	3	60-69,9	Satisfactory	When the student is found to be able to apply the knowledge he has gained in practice, understands, knows, can express, and narrate the essence of the subject, and has an idea about the subject.
	2	0-59,9	Unsatisfactory	When it is determined that the student has not mastered the science program, does not understand the essence of the subject, and does not have an idea about the science.
Recommended Literature	<p>Main literature:</p> <p>1 .Allayev Q.R.,Sidiqov I.H. va bosh. Stantsiya va podstantsiyalarning elektr qismi. O'zR OO'MTV – T.: Cho'lpon nomidagi NMIU, 2016. 304 b.</p> <p>2. Siddikov I.X. Aloqa qurilmalari qayta tiklanuvchi elektr ta'minoti manbalari fanidan uslubiy qo'llanma – Toshkent, TATU, 2016 – 92 b.</p> <p>3. Shamsutdinov H.F., Mirzabekov Sh.M., Ergashev M.M., Po,,latov N.Q. - Stansiya va podstantsiyalarning elektr qismi fanidan laboratoriya ishlarini bajarish uchun uslubiy ko,,rsatma - Toshkent, ToshDTU, 2023 - 48 b.</p> <p>4. X.A. Alimov, X.Y. Xudayqulov, A.V. Kuchkarov. Issiqlik va atom elektr stansiyasi. O'quv qo'llanma. – T.:, 2022. – 198 b.</p> <p>Additional literature:</p> <p>5. Mirziyoyev Sh.M. Yangi O'zbekistonda erkin va farovon yashaylik. –T.: “TASVIR nashriyot uyi”, – 2021.– 50 b.</p> <p>6. Mirziyoyev Sh.M. Milliy taraqqiyot yo'limizni qati'yat bilan davom ettirib yangi bosqichga ko'taramiz.–T.:“O'zbekiston”, 2017–592 b.</p> <p>7. N.B.Pirmatov, A.S.Saodullaev, A.E.Bekishev, N.A.Qurbonov. Elektr mashinalari. O'quv qo'llanma. Jizzax 2021. 228 b.</p> <p>Internet resources:</p> <p>8. www.gov.uz -O'zbekiston Respublikasi hukumat portali.</p> <p>9. www.lex.uz- O'zbekiston Respublikasi Qonun hujjatlari ma'lumotlari milliy bazasi.</p> <p>10. www.Ziyo.net</p>			