Name of subject	Engineering psychology (ECTS 4)
Subject/module code	MUHP2604
Science taught semester (s).	6th semester
Responsible teacher	Rajabov Orifjon Kxonimqulovich, PhD., associate professor.
Education language	Uzbek
Connection to the curriculum	Elective
Training hours (this including independent education)	**Total hours-120.** **Audience Training hours - 48.** Lecture training hour – 24 Workshop training hour – 24 **Independent education -72 hours**
ECTS	4
The purpose and tasks of subject / learning outcomes	**The purpose of teaching the subject** it consists in understanding the importance of psychological factors in engineering activities in students, studying the relationship of the human factor and the technical system, forming decision-making skills based on psychological criteria that ensure the effectiveness and reliability of human activity in technical systems. It is also aimed to prepare students to analyze psychological states such as stress, fatigue, attention, motivation, communication and leadership that occur in engineering activities, to take into account psychophysiological and cognitive factors in the design of human-machine systems. **The task of the subject** to explain to students the connection between engineering activities and human psychology; to study the role of the human factor in engineering activities, its actions, its impact on decision-making processes; to analyze the effectiveness, reliability and probability of error in human performance in technical systems; to identify psychological problems in production and teach ways to eliminate them; to teach the basics of ergonomics, security, motivation, ; The formation of skills to use psychological criteria in the design of technical systems in accordance with human capabilities; consists in teaching effective communication and psychological adaptation mechanisms in engineering processes. **Learning outcomes:** 1. Understanding the content and significance of psychological factors in engineering activities. 2. Identification and assessment of human activity and characteristics of human-machine systems in technical systems. 3. Having knowledge of psychological security, stress and fatigue reduction in working conditions. 4. To identify problems related to collective activity, communication, leadership and psychological adaptation in production and make recommendations for their solution. 5. To have psychological approaches to analyzing, preventing and increasing the level of security of human error.
Course content (topics)	**I. Main Theoretical Part (Lecture Sessions)** **Topic 1:** Subject, purpose and objectives of the science of engineering psychology. Definition, object and subject of engineering psychology. History of the emergence and development of engineering psychology **Topic 2:** Engineering psychology research methods. Psychological methods. The use of physiological methods in engineering psychology. **Topic 3:** An understanding of Professionography. Social description of the engineering profession. Psychological description of the activities

	of engineering personnel. Professional abilities and professional skills in the engineer system. The concept of professional disorder and ways to prevent them. **Topic 4:** Engineering psychology as a field of Labor psychology. Concepts of engineering psychology and Technical Aesthetics. Human cooperation with production techniques. Engineering psychology faninig problems. **Topic 5:** Cognitive processes and professional development of the individual. Cognitive processes. Awareness of attention, its types. The concept of the sensory process. Sensory characteristics and types. The concept of memory. Types of memory and their characteristics. Understanding of perception. Distinctive features of perception in Professional Psychology. **Topic 6:** Professional activity, motivation and motivation, motives of labor activity. Psychology of labor activity. Personality motivations in the interpretation of American Scientists. The level of awareness of motives: social ustanovka and the problem of its transformation. Classification of motives. **Topic 7:** the role of intelligence and creativity in the training of Future Engineers. The concept of intelligence and creativity. The interaction of intelligence and creativity. Intellect-capacity-mind-talent-talent. History of modern tests in the measurement of intelligence. The role of the environment and heredity in the formation of intelligence. Sexual differences in the development of intelligence. **Topic 8:** Professional Ethics and individual characteristics of an engineer. Professional ethics and etiquette issues in engineering activities. Classification of Individual-typological features. Diagnosis of personality talents and abilities. Psychological structure of abilities. Temperament and individual characteristics of activity. Character and personality. **Topic 9:** the role of emotional-volitional and personal qualities in improving the effectiveness of engineering activities. Understanding of emotion. Manifestation of emotion. Manifestation of emotion. Moods, stress, depression, euphoria. Motivation for volitional behavior. Making decisions according to the emotional-volitional sphere. **Topic 10:** the role of thinking in engineering activities. Thinking and its features. Types and forms of thinking. Thinking operations and laws. Qualities of thinking. Individual characteristics and development of thinking. **Topic 11:** the formation and development of the communication culture of Future Engineers. Understanding of communication. Communicative sphere of communication. The perceptual side of communication. Types of communication **Topic 12:** Conflicts in professional activities and ways to prevent them. The concept of conflict, its essence and structure. Conflict prevention roads. **II. Workshop training instructions and recommendations** The teacher's preparation for a workshop training session begins with the study of preliminary documents (curriculum, thematic plan, etc.) and ends with the development of a lesson plan. The teacher should have an idea of the goals and objectives of the workshop training session, the amount of work that each student must perform. Methodological guidelines are the main methodological document of the teacher in preparing and conducting workshop training sessions. The purpose of the workshop training session is to understand the theory, acquire skills. It is to consciously apply it in educational and professional activities, and to develop the ability to confidently form one's own point of view. **The following topics are recommended for workshop training**:

	1. Subject, purpose and objectives of the science of engineering psychology. 2. Engineering psychology research methods. 3. The concept of professionography. 4. Engineering psychology as a field of Labor psychology. 5. Cognitive processes and professional development of personality. 6. Motives of professional activity, motivation and motivation, labor activity. 7. The role of intelligence and creativity in the training of future engineers. 8. Professional ethics and individual characteristics of the engineer. 9. The role of emotional-volitional and personal qualities in improving the effectiveness of the work of an engineer. 10. The role of thinking in engineering activities. 11. Formation and development of the communication culture of Future Engineers. 12. Conflicts in professional activities and ways to prevent them. **III. Independent learning and independent work.** Independent learning competence serves to support students' independent self-development and increase the effectiveness of professional activities. Students perform independent work on their mobile devices under the guidance of a teacher in a traditional or electronic form. **Recommended topics for independent study:** 1. The history of the development of the science of engineering psychology and its role and significance in the system of Sciences. 2. Classification of research methods of engineering psychology, the field of application of methods. 3. Personality psychology and professional formation. 4. Motives of labor activity. Motives for choosing an engineering profession. 5. Personality awareness activities. 6. Attention and issues of choice of profession. Perception, memory, thinking and professional activity 7.Emotional-volitional sphere of personality and adaptation to the profession 8.Ability, speech and profession 9.Temperament and occupation 10.Individual style of activity and temperament 11. Character and professional qualities 12. Professional maturation of the individual. An individual's perception of professional identity 13. Motives of a person in professional maturation 14. Understanding and scientific perceptions of conflicts in professional self-awareness 15. Identification of professional interests and abilities.
Exam form	Written
Teaching/learning and examination requirements	Complete mastery of theoretical and methodological concepts and practical knowledge of the discipline, the ability to correctly reflect the results of analysis, independently reason about the processes being studied and carry out tasks in the current, intermediate forms of control and independent work, pass written work on the final control. When drawing up final exam questions, deviations from the content of the discipline program are not allowed. The bank of final exam questions for each discipline is discussed at the meeting and approved by the head of the department. No later than 1 week before the start of the final control, tickets

	signed by the head of the department, enclosed in an envelope, are sealed by the Dean’s office and opened 5 minutes before the start of the exam in the presence of students. Final exam duration is 80 minutes. Answers to final exam questions are recorded in copybooks with the seal of the Dean’s office. After completion of the final work, the work is immediately encrypted by a representative of the Dean’s office, and the copybooks are handed over to the commission for verification. From the moment of completion of the final exam, a period of 72 hours is allotted for checking and posting the results on the electronic platform. The teacher who taught the students in this discipline is not involved in the process of conducting the exam and checking the students' answers. Student(s) who are dissatisfied with the final exam results may submit a written or oral appeal within 24 hours of the publication of the final exam results. Complaints submitted after 24 hours from the publication of the final exam results will not be accepted.
Scope of assessment criteria and procedure	CURRENT CONTROL Purpose: Determining and assessing the student's level of knowledge, practical skills, and competencies on course topics. Instructions: The student's activity in daily classes is assessed through the student's mastery of course topics, as well as constructively interpreting and analyzing the educational material, developing module-specific skills, acquiring practical skills (in terms of quality and the specified number) and competencies, solving problem situations aimed at applying professional practical skills, working in a team, preparing presentations, etc. Current control form: Activity in lessons Preparing educational materials Working with sources within the subject Using educational technologies Working in a team Preparing presentations Working with projects. MIDTERM CONTROL Purpose: Assessing the student's knowledge and practical skills and level of mastery of lecture material after completing the relevant section of the course. Form and procedure of intermediate control: Midterm examination is held during the semester during the training sessions after the completion of the relevant module of the curriculum of the subject. Midterm examination is held once in written form within the framework of this subject. Midterm examination questions cover all topics of the subject. INDEPENDENT LEARNING Purpose: Independent learning is aimed at fully covering the content of this course, expanding the theoretical knowledge acquired, and establishing independent learning activities for students. Form and procedure of independent education: independent work assignments are completed in the form of an educational project, presentation, case study, problem solving, information search, digest, colloquium, essay, article, abstract, etc. Completed assignments for independent study are placed in the electronic system and checked based on the anti-plagiarism program and evaluated by the subject teacher. In this case, the uniqueness of the completed assignment should not be less than 60%, otherwise the assignment will not be accepted for assessment. The number of independent work assignments, depending on the nature of the subject, should not be less than 3 for one subject (module). Independent work assignments account for 60% of the points allocated for current and intermediate control. FINAL CONTROL Purpose: The final examination is held at the end of the semester to

	determine the level of mastery of the student's theoretical knowledge and practical skills in the relevant subject. The final examination is held at a specified time according to the examination schedule created by the Registrar's Office on the electronic platform. Requirements: The student must have passed the current control, intermediate control and independent learning assignments by the deadline for the final control type in the relevant subject. A student who has not passed the current control, intermediate control and independent learning assignments, as well as who has received a score in the range of "0-29.9" for these assignments and control types, is not included in the final control type. Also, a student who has missed 25 percent or more of the classroom hours allocated to a subject without a reason is excluded from this subject and is not included in the final control type and is considered not to have mastered the relevant credits in this subject. A student who has not passed or was not included in the final control type and has received a score in the range of "0-29.9" for this type of control is considered to be an academic debtor. Final control form: The final examination in this subject will be conducted in written form. If the final examination is conducted in written form, the requirements for assessment must also be reflected.
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.

Course assessment criteria and procedure

Assessment type	Total points allocated	Control (task) form	Distribution of points	Qualifying score
Current assessment	30 points	System tasks	20 points (divided by the number of tasks)	18 points
		Student activity (in seminars, practical, laboratory classes)	10 points	

Midterm assessment	20 points	Supervision: Written work	10 points	12 points
		System tasks	10 points (divided by the number of tasks)	
Final assessment	50 points	Written assignment (5 questions)	50 points (10 points per question)	30 points
* Note: 60% of the points allocated for current and intermediate control are allocated to independent work assignments. Independent work assignments are evaluated as system assignments through the electronic platform.				

Recommended Literature

Main literature:

1. Б.Ф.Ломов., Инженерная психология. М.:“Висшая школа” 2001.
2. Хрестоматия по инженерной психологии. Под редакцией Б.А. Душкова. М.: Высшая школа. 1991.
3. Ivanov R.I., Zufarova M.E. Umumiy psixologiya. Darslik.T.: O'zb-n faylasuflar milliy jamiyati 2008
4. Safayev N.S., Mirashirova N.A. “Umumiy psixologiya nazariyasi va amaliyoti“ TDPU, 2013 y, B.100-113.
5. Sh.X.Abdullayeva. Kasbiy psixologiya. –T.: « Innovatsion rivojlantirish nashriyot-matbaa uyi » 2020. 196 bet.
6. Qodirov B.R. Kasbiy tashxis metodikalar to`plami. O`quv qo`llanma. – T.: Noshir, 2003.
7. G`oziyev E.G`. Kasb psixologiyasi. O`quv qo`llanma. – T.: Noshir, 2003.
8. Корнетов Г. Педагогика. (учебное пособие) 2003.
9. Z.N.Yulchieva. Kasbiy psixologiY. O`quv qo`llanma. T.: «Fan va texnologiya» nashriyoti, 2019.
10. Baron R.A. 2001/Indian reprint 2002 Psychology (5 ched) Allyn & Bakon.

Additional literature:

11. Mirziyoev SH.M. Erkin va farovon demokratik O‘zbekiston davlatini birgalikda barpo etamiz.Toshkent,O‘zbekiston, 2016.-56b.
12. Mirziyoev SH.M. Tanqidiy taxlil, qat’iy tartib - intizom va shaxsiy javobgarlik – xar bir raxbar faoliyatining kundalik qoidasi bo‘lishi kerak. Toshkent, O‘zbekiston, 2017.-104 b
13. Mirziyoev SH.M. O‘zbekistonni rivojlantirishning beshta ustuvor yo‘nalishi bo‘yicha Xarakatlar strategiyasi. T., O‘zbekiston, 2017. “Gazeta. uz”.
14. Karimova V.M. va boshqalar. PsixologiY., Darslik – 2008.

Internet resources:

15. www.ziyonet.uz – national educational materials search site.
16. www.gov.uz – Government portal of the Republic of Uzbekistan.
17. www.google.com – international educational materials search site.
18. www.twirpx.com – international educational materials search site.
19. www.psychology.net.ru – international psychology teaching materials search site.