**Syllabus**

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| № | Field name | Detailed content, comments |

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| 1. | Name of the faculty | Computer engineering and management |
| 2. | Level of higher education | Master's degree |
| 3. | Code and name of the specialty | 123 Computer Engineering |
| 4. | Type and name of educational program | OPP "Computer Intelligent Technologies" |
| 5. | Code and name of the discipline | **Intelligent embedded computer systems** |
| 6. | Number of ECTS credits | 4 |
| 7. | Discipline structure (distribution by types and hours of study) | 24 years. - 12 lux,16 years. - 4 lbs,10 years. - 5 cons.,70. - independent work, type of control: exam |
| 8. | The schedule of studying the discipline | 1st year, 2nd semester |
| 9. | Prerequisites for studying the discipline | Previous disciplines should be studied: "Higher Mathematics", "Information Theory and Coding", "Computer Architecture" and "Microcontroller Programming".  |
| 10. | Discipline abstract | The discipline of basic (professional) training in the specialty contains content modules:1. Introduction to ARM technology.
2. Design of IoT systems and review of cloud technologies.
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| 11. | Competences, knowledge, skills, understanding, which are acquired by the applicant in higher education in the learning process | Ability to form and present the results of their research in Ukrainian and foreign languages. Ability to actively use critical thinking skills, decision-making techniques, methods of preparation and conduct of scientific and professional discussions. Ability to substantiate their views and scientific hypotheses. Ability to develop individual personal abilities: motivational-value, cognitive and creative. Ability to summarize the results of the search for scientific and professional information from various electronic sources. Ability to present and publish research results for general discussion.Ability to analyze and design intelligent computer systems based on modern technology. Ability to use algorithms and methods of analysis and synthesis of intelligent computer systems and networks using the latest technologies. Ability to develop and select tools for designing intelligent computer systems and networks. Ability to design embedded systems and their components on a modern element base. Ability to develop hardware and software for embedded and distributed systems. |
| 12. | Learning outcomes of higher education | Know and understand the principles of creation and use of new software and hardware for information processing. Be able to develop and operate hardware and software of intelligent computer systems and networks. Be able to perform experimental research on professional topics, evaluate the results obtained and defend the decisions with arguments. Be able to develop software and hardware for embedded and distributed intelligent computer systems. Be able to use methods to improve the quality of computer systems and information processing networks. Ability to justify the choice of intelligent decision-making methods to solve specialized problems, critically evaluate the results and defend decisions. |
| 13. | Assessment system according to each task for passing the test / exam | 1. Work out and defend laboratory work.2. Perform 2 tests. 4. Get at least 60 points per semester.5. Pass the combined exam.Semester grade () is calculated as the sum of grades for different types of classes and control measures. Each laboratory work is estimated at 5 points (1 point for attendance + 1 point for practice + 3 points for defense (delivery with an assessment)). DKR1 is estimated at 21-35 points, DKR2 - at 12-20 points, Test - at 12-20 points. The maximum rating during the semester is 100 points.Exam score  = (60-100) points. |
| 14. | The quality of the educational process | Adherence to the principles of academic integrity (<http://lib.nure.ua/plagiat>). Update of the work program of the discipline - 2020 |
| 15. | Methodical support | Complex educational and methodological support of the discipline "Embedded computer systems»For students majoring in 123« Computer Engineering »on the educational program« Computer Intelligent Technologies », branches of knowledge 12« Information Technologies »[Electronic resource] / Разр .: О.О. Bezsonov - Kharkiv: KNURE, 2019.<http://catalogue.nure.ua/knmz>. |
| 16. | Syllabus developer | O.O. Bezsonov, prof. Department of KITS, D. of Sci., Professor |