

METROLOGY, STANDARDIZATION AND CERTIFICATION IN INFORMATION TECHNOLOGY

**COURSE SYLLABUS ABSTRACT
of higher education institution**

Speciality 1-28 01 02 – Digital Marketing

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	3	3
Semester	8	5	5
Lectures, hours	24	6	6
Practical classes (seminars), hours	24	6	6
Pass/fail, semester	8	5	5
Contact hours	48	12	12
Independent study, hours	42	78	78
Total course duration in hours / credit units	90/2,5		

1. Course outline: The subject and tasks of metrology. Basic concepts of theoretical metrology. The theory of reproduction of units of physical quantities and transmission of their sizes (the theory of unity of measurements). Measurement errors. Processing of measurement results. Measuring instruments. Metrological Service of the Republic of Belarus. Fundamental principles of standardization. Levels of standardization and standardization bodies. Technical normative legal acts in the field of technical regulation and standardization.

2. Course learning outcomes: upon completion of the course, students will be expected to **know:**

- basic justifications, methods and means of measuring various quantities;
- State system of standardization and certification, main categories and types of sections established in the Republic of Belarus;
- theoretical foundations of measurements
- systems for ensuring the uniformity of measurements
- measurement tasks, selection of measurement methods, forms of measurement results

be able to:

- choose measurement methods
- carry out mathematical processing of measurement results
- identify and evaluate measurement errors

possess:

- effectively use the standards of all categories and types, correctly apply the main methods of standardization;
- technically and metrologically correct to choose the measurement method and measuring equipment for solving practical measurement problems;
- methodically correctly perform measurements, evaluate accuracy and document measurement results.

3. Competencies: be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems (AC-1), be able to work independently (AC-4), be able to generate new ideas (be creative) (AC-5), have skills related to the use of technical devices, information management and computer work (AC-7), have oral and written communication skills (AC-8), be capable of social interaction (SPC-2), be capable of criticism and self-criticism (SPC-5), be able to work in a team (SPC-6), prepare reports, materials for presentations (PC-34), use global information resources (PC-35).

4. Requirements and forms of midcourse evaluation and summative assessment

A modular rating system is used. Intermediate certification: evaluation of work in practical classes. Current certification: pass/fail.