



Faculty: FACULTY OF TELECOMMUNICATIONS AND MANAGEMENT

Department: INFORMATION TECHNOLOGY

Professional Field: COMMUNICATION AND COMPUTER EQUIPMENT

Specialty: CYBERSECURITY IN BUSINESS

Educational-qualification degree: BACHELOR

LEARNING COURSE DESCRIPTION

1. Course title: ADDITIVE PROCESSES

2. Course code:

3. Type of course: compulsory

4. Level: Bachelor

5. Year of study: third

6. Semester: sixth

7. Number of credits: 6

8. Name of the lecturer: Prof. Dr. Miglena Temelkova

9. Learning outcomes for the discipline:

The aim of the course is to provide students with a basic knowledge of additive technologies, additive manufacturing and its capabilities in a systematic way.

Students completing the course should acquire:

Basic knowledge of:

- characteristics of additive technologies;
- components of additive manufacturing;
- the functions of additive manufacturing;
- the nature and varieties of additive technologies.

Practical skills to use in practice the possibilities of additive manufacturing.

Competencies: Upon completion of the course, students who successfully complete the course should have mastered the theoretical and practical capabilities of additive manufacturing operations.

10. Mode of Instruction:

The teaching method is "experiential learning", with material presented in seminar form, in the form of business games and case studies. The use of a group dynamic process allows students to learn the basic concepts related to the discipline and also form concrete skills.

Learning is individualized and the learner is assumed to be an active self-organizing individual. Active learning is achieved through action (doing), interaction, multimedia, virtual and interactive platforms through which students independently access knowledge and apply it in concrete practical-applied cases.

11. Prerequisites:

Students should have in-depth knowledge of Foundations of Economics, Foundations of Management, Leadership and Entrepreneurial Digital Competencies.

12. Course Content:

The course forms, in the form of a seminar, a basic knowledge of the additive processes that condition and determine modern production. The whole training is structured in the form of theoretical material, case studies, role plays and test problems.

13. Bibliography

Basic literature:

1. **Кънев, М.** Микроикономика, Мартилен. 2012.
2. **Стоянов, И.** Основи на управлението. Авангард прима. 2018.
3. **Темелкова, М.** Въведение в контролинга. Колор принт. Варна, 2016.
4. **Темелкова, М.** Стратегически контролинг в бизнес организацията от сектора на услугите. Колор принт. Варна, 2017.
5. **Дамянов, Д., Гешев, Т., Чукалов, К.** Четвърта индустриална революция – същност и проблеми. Кинг. 2019.
6. **Kreutzer, R.** Methodik zur Bestimmung der Nutzenpotenziale von Felddaten cyber-physischer Systeme. Apprimus Verlag. 2019.

7. **Dang, M.** Big Data Analytics und cyber-physische Systeme. Auswirkungen von Industrie 4.0-Technologien im Bereich E-Procurement. Grin Verlag. 2019.

Допълнителна литература:

1. **Темелкова, М.** Оптимизация на производствената организация в условията на криза. ВСУ Черноризец Храбър. 2010.
2. **Темелкова, М.** Семинарна тетрадка по контролинг. Колор принт. Варна, 2011.
3. **Britzelmaier, B.** Controlling: Grundlagen, Praxis, Handlungsfelder. Pearson Studium. 2017.
4. **Graumann, M.** Controlling: Begriff, Elemente, Methoden und Schnittstellen. NVB Verlag. 2018.
5. **Olfert, K., Schreiber, M.** Kompakt-Training Controlling. NVB Verlag. 2018.

14. Assessment methods and criteria:

The achievement of the training objective is controlled by a written exam in the form of a test during the exam session. The assessment is formed through a point scale, taking into account the participation in the practical classes and the individual work of the student during the semester. The final grade in the discipline is formed on the basis of a point system, with the maximum number of points that students can receive being 100. The final assessment is formed by a theoretical test and the results of the assignments, case studies, and tests completed in the course of the group role-playing games, taking into account the students' activity during the educational process itself during the semester. Grading weight:

- Assessment in the learning process - tests, case studies, assignments, role-plays - carries 50% weight in the final assessment;
- Online theory test of 20 questions lasting 40 minutes - carries 50% weight in the final grade.

The assessment of the test is based on the following criteria: up to 50% correct answers - **Fail** 2; up to 70% correct answers – Satisfactory 3; up to 80% correct answers – Good 4; up to 90% correct answers - Very good 5 and over 91% - Excellent 6).

The formation of the final grade (CO) is based on the results obtained from the current control in the course of training and the group dynamic process (TC) and the result of the theoretical test (TT), and the correspondence between the number of points and the assessment according to the six-point system.

$$KO = 0.5 TT + 0.5 TC$$

15. Language of instruction: *Bulgarian and english*