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inženjerstvo materijala – Materials Engineering

1. Critically assess the basic technological properties of materials and the fundamental methods of material testing.
2. Evaluate appropriate procedures of the technological process of material processing.
3. Assess the suitability of material application for the production of machine elements or structures.
4. Select a technological processing procedure while considering environmental protection criteria.
5. Justify the application of testing methods and material processing procedures according to relevant technological and ecological criteria.

Šarkanj

Ekologija i ambalaža

1. Distinguish the basic concepts of ecology, pollution, and environmental protection.
2. Propose a solution for the responsible use of resources with an emphasis on packaging.
3. Design a method for preserving or cleaning air, water, or food with respect to a given contaminant.
4. Predict a problem with packaging material that they design for a given product.
5. Present an environmentally acceptable solution to a problem with packaging material.
6. Integrate different recycling and disposal procedures according to the type of waste.

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Postupci recikliranja materijala – Materials Recycling Processes

1. Assess the justification for recycling metallic and non-metallic materials.
2. Recommend an appropriate system for material selection and separation.
3. Recommend an appropriate material recycling procedure.
4. Predict an efficient method for the reuse of recycled materials.
5. Predict the effects of recycling a specific product, taking into account ecological, technical, and economic criteria.

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Ambalažni materijali i sustavi pakiranja – Packaging Materials and Systems

1. Critically assess the application of packaging materials.
2. Select appropriate standard methods for testing packaging quality.
3. Recommend a suitable product packaging system.
4. Select packaging according to circular economy criteria.

5. Select a packaging system according to circular economy criteria.

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Organizacija proizvodnje - Production Organization

1. Evaluate the positions and roles of the production process within a company and explain the basic principles of modern approaches to production, such as lean manufacturing.
2. Design an optimal layout of machines within the production process and assess general principles related to workplace organization.
3. Develop an organizational chart of the production process and the company using one of the appropriate methods.
4. Evaluate production times in product manufacturing and self-assess basic production planning techniques, such as gantt charts and network diagrams.

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Proizvodni sustavi i tehnologije - Production Systems and Technologies

1. Manage fundamental concepts and definitions related to the design and management of production systems.
2. Self-assess the most important parameters of the assembly process.
3. Propose an appropriate manufacturing technology or technologies for a defined product.
4. Evaluate the specific characteristics of welding technology, casting, machining processes, forming processes, and polymer processing methods.
5. Assess basic corrosion protection methods and evaluate the concepts of micro- and nanotechnology.

Čikić, Perić

Obnovljivi izvori energije - Renewable Energy Sources

1. Evaluate key elements, devices and assemblies of installations and/or plants when using individual renewable energy sources.
2. Compare individual operational processes and principles that form part or whole of a process, and through individual practical examples, point out the efficiency and rationality of using renewable energy sources.
3. Connect knowledge in solving practical tasks using examples of individual devices, assemblies and installations, and classify the types and methods of possible application of renewable resources, and propose more efficient procedures in certain practical cases.
4. Calculate basic thermotechnical and energy parameters and interpret them through individual devices, assemblies and functional units, and classify individual devices

and assemblies applicable in professional practice, - handle devices and assemblies of individual systems applicable in practice.