## COURSE DESCRIPTION CARD

|                                       |  |        |          | -       |         | -        |  | hnology<br>agement                  |  |
|---------------------------------------|--|--------|----------|---------|---------|----------|--|-------------------------------------|--|
| Field of study                        | Faculty of Engineering Mar<br>Management   |        |          |         |         |          | Degree level<br>and<br>programme<br>type | first degree/second<br>degree       |  |
| Specialisation/<br>diploma path       |  |        |          | -       |         |          |  | Study profile                       | -  |
| Course name                           | Circular economy   |        |          |         |         |          | Course code                              | IS-FM-00109S                        |  |
|                                       |  |        |          |         |         |          |  | Course type                         | elective   |
| Forms and<br>number of                | L  | С      | LC       | Ρ       | SW      | FW       | S  | Semester                            | summer   |
| hours of<br>educational<br>activities | 15   | 15     |          |         |         |          |  | No. of ECTS<br>credits              | 5  |
| Entry<br>requirements                 |  |        |          |         |         |          | -  |                                     |  |
| Course<br>objectives                  | Understanding the relationship between socio-economic development and the<br>environmental sphere, acquiring knowledge about the circular economy and the<br>possibilities of implementing activities in this area. Acquiring the ability to take into<br>account environmental issues in business activities.   |        |          |         |         |          |  |                                     |  |
| Course content                        | Lecture: Definitions related to the circular economy (CE). Circular economy in international and EU environmental policy. Objectives and principles of CE. Areas of CE: design for environment, sustainable production and consumption, waste management. Activities of CE in enterprises and local government units. Classes: Implementation of CE activities in various sectors, including design for environment, recycling, and reuse. National and international good practices of CE implementation in enterprises and local government units. Financing of CE activities. |        |          |         |         |          |  |                                     |  |
| Teaching<br>methods                   | Infor  | mative | e lectui | re, cas | se stud | ly, proj | ect m                                    | ethod                               |  |
| Assessment<br>method                  | Lecture: written final test;<br>Classes: evaluation of preparation for the classes, evaluation of performed tasks<br>and task presentation prepared in groups, final test  |        |          |         |         |          |  |                                     |  |
| Symbol of<br>learning<br>outcome      |  |        |          |         | rning   |          |  |                                     | Reference to the<br>learning outcomes<br>for the field of<br>study |
|                                       |  |        |          |         |         |          |  | l understands                       | -  |
| LO1                                   |  |        |          |         |         |          |  | principles, and its for the country | -  |
|                                       |  |        |          |         | e grad  |          |  |                                     |  |

|  | r   |   |  |  |  |  |
|--|---|---|--|--|--|--|
| list and characterize activities regarded to circular economy<br>in the enterprise and local government unit   | conomy _  |   |  |  |  |  |
| organize individual work and work in a team  | -   |   |  |  |  |  |
| Social competence: the graduate is ready to  |   | -   |  |  |  |  |
| use of knowledge about circular economy to solve problems in enterprises and local government units  | •   |   |  |  |  |  |
| Methods of assessing the learning outcomes   | Type of tuition<br>during which the<br>outcome is<br>assessed   |   |  |  |  |  |
| written test   |   |   |  |  |  |  |
| evaluation of the preparation for classes, evaluation of the tasks<br>performed, evaluation of the project prepared in the team  | C   |   |  |  |  |  |
| evaluation of the preparation for classes, evaluation of the tasks<br>performed, evaluation of the project prepared in the team  | С   |   |  |  |  |  |
| evaluation of the preparation for classes, evaluation of the tasks<br>performed, evaluation of the project prepared in the team  | C   |   |  |  |  |  |
| Student workload (in hours)  | No. of hours  |   |  |  |  |  |
| participation in lectures  | 1   | 5   |  |  |  |  |
| participation in classes   | 15  |   |  |  |  |  |
| preparation for classes  | 60  |   |  |  |  |  |
| preparation to pass classes  | 15  |   |  |  |  |  |
|  | 16  |   |  |  |  |  |
| participation in consultations   | 4   |   |  |  |  |  |
| TOTAL:   | 12  | 25  |  |  |  |  |
| Quantitative indicators  | HOURS   | No. of<br>ECTS<br>credits   |  |  |  |  |
| ad – activities that require direct teacher participation  | 34  | 1,4   |  |  |  |  |
| Student workload – practical activities  | 94  | 3,8   |  |  |  |  |
| <ol> <li>Amato A., The Circular Economy Challenge: Towards a St<br/>MDPI - Multidisciplinary Digital Institute, Basel 2022.</li> <li>Mao J. et al,, Circular Economy and Sustainable Developme<br/>Singapore, 2018.</li> </ol>   | ustainable De<br>ent Enterprise   | evelopment,<br>es, Springer,  |  |  |  |  |
| <ol> <li>Braungart M., McDonough W., Cradle to cradle: remaking the way we make things,<br/>Vintage, London 2019.</li> <li>Singh N. K., Pandey S., Sharma H., Goel S., Green Innovation, Sustainable<br/>Development, and Circular Economy, Taylor &amp; Francis, Boca Raton, London, New</li> </ol> |   |   |  |  |  |  |
|  | Date of issuing the programme   |   |  |  |  |  |
| Department of Production Management  |   | •   |  |  |  |  |
|  | organize individual work and work in a team<br>Social competence: the graduate is ready to<br>use of knowledge about circular economy to solve<br>problems in enterprises and local government units<br>Methods of assessing the learning outcomes<br>written test<br>evaluation of the preparation for classes, evaluation of the tasks<br>performed, evaluation of the project prepared in the team<br>evaluation of the preparation for classes, evaluation of the tasks<br>performed, evaluation of the project prepared in the team<br>evaluation of the preparation for classes, evaluation of the tasks<br>performed, evaluation of the project prepared in the team<br>evaluation of the preparation for classes, evaluation of the tasks<br>performed, evaluation of the project prepared in the team<br>evaluation of the project prepared in the team<br>student workload (in hours)<br>participation in lectures<br>participation in classes<br>preparation for classes<br>preparation to pass classes<br>preparation to pass a lecture<br>participation in consultations<br>TOTAL:<br>Quantitative indicators<br>ad – activities that require direct teacher participation<br>Student workload – practical activities<br>1. Delchet-Cochet K., <i>Circular Economy</i> , John Wiley & Sons, Inc<br>2. Amato A., <i>The Circular Economy Challenge: Towards a</i> SI<br>MDPI - Multidisciplinary Digital Institute, Basel 2022.<br>3. Mao J. et al., <i>Circular Economy and Sustainable Developme</i><br>Singapore, 2018.<br>1. Braungart M., McDonough W., <i>Cradle to cradle: remaking t</i><br><i>Vintage</i> , London 2019.<br>2. Singh N. K., Pandey S., Sharma H., Goel S., Green | in the enterprise and local government unit         organize individual work and work in a team         Social competence: the graduate is ready to         use of knowledge about circular economy to solve         problems in enterprises and local government units         Methods of assessing the learning outcomes         written test         evaluation of the preparation for classes, evaluation of the tasks         performed, evaluation of the project prepared in the team         evaluation of the preparation for classes, evaluation of the tasks         performed, evaluation of the project prepared in the team         participation in lectures         participation in classes         preparation for classes         preparation to pass classes         preparation to pass a lecture         participation in consultations         de - activities that require direct teacher participation         34         Student workload – practical activities         94         1. Delche |  |  |  |  |

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar