Thematic areas for Final Master's State Examination

Programme: Business Administration

Title of the SFE: Production Economist

Prerequisites:

1. Production Technologies for Economists
2. Engineering Materials for Economists
3. Materials for Production Processes - for Master study programme
4. Methods of Production Processes Management and Planning - for Master study programme
5. Progressive Technologies for Production Processes - for Master study programme

Vypracoval:	doc. Ing. Karel Gryc, Ph.D. doc. Ing. Ladislav Socha, Ph.D.	**Podpis:**	
Schválil garant programu	doc. Ing. Jarmila Straková, Ph.D.	**Podpis:**	
Datum vydání	8. 2. 2024		
Platnost od:	pro nástup od ZS 2022		
Platnost do:	Odvolání		

Thematic areas

1. MRP systems.
2. Lean production system.
3. Product and production process innovation.
4. Long term planning by functional areas.
5. Major causes of enterprise success and failure.
6. Production technologies – production of steel.
7. Production technologies – steel casting.
8. Production technologies – production of cast iron.
9. Production technologies – casting of cast iron.
10. Production technologies – production and casting of non-ferrous alloys.
11. Materials in automotive.
12. Composite materials in current practice.
13. Progressive materials in current practice.
14. Automation of storage and handling processes.
15. Principles of designing automated production workstations.
16. Trends in designing robotic workstations.
17. Classification of progressive production processes.
18. Energy-jet production processes.
19. Metallography of metals and their alloys.
20. Testing mechanical properties of metals and their alloys.

Recommended literature

1. Production Technologies for Economists

ANGELO, P. C. a B. RAVISANKAR, 2019. Introduction to Steels: Processing, Properties, and Applications. CRC Press LLC. ISBN 9781138389991.

WILLIAMS, R. V., 2016. Control and Analysis in Iron and Steelmaking. 2nd edit. Butterworth-Heinemann. ISBN 9780408107136.

BREBBIA, C. A. a J. J. CONNOR, 2018. Progress in Materials Science and Engineering. Springer. ISBN 9783319753393.

RAO, P. N., 2018. Manufacturing Technology - Foundry, Forming and Welding, 5e (Volume 1). McGraw-Hill Education. ISBN 9789353160517.

HAIDEMENOPOULOS, G. N., 2018. Physical Metallurgy: Principles and Design. CRC Press LLC. ISBN 9781138627680.

LUMLEY, R., 2018. Fundamentals of Aluminium Metallurgy: Recent Advances. Elsevier Science & Technology. ISBN 9780081020630.

GRUSHKO, O., B. OVSYANNIKOV a V. OVCHINNOKOV, 2016. Aluminum-Lithium Alloys: Process Metallurgy, Physical Metallurgy, and Welding. CRC Press LLC. ISBN 9781498737173.

SAHOO, M. a S. SAHU, 2014. Principles of Metal Casting. 3rd edit. McGraw Hill Professional. ISBN 9780071789752.

BEDDOOES, J. a M. J. BIBBY, 1999. Principles of Metal Manufacturing Processes. Elsevier Science & Technology. ISBN 9780340731628.

CAMPBELL, J., 2004. Castings Practice: The Ten Rules of Castings. Butterworth-Heinemann. ISBN 9780750647915.
BEELEY, P. R., 2001. Foundry Technology. 2nd edit. Elsevier Science & Technology. ISBN 9780750645676.

CAMPBELL, J., 2003. Casting. 2nd edit. Butterworth-Heinemann. ISBN 9780750647908.

LUMLEY, R., 2011. Fundamentals of Aluminium Metallurgy: Production, Processing and Applications. Woodhead Publishing. ISBN 9781845696542.

MICHNA, Š., 2007. Aluminium Materials and Technologies from A to Z. Alcan Děčín Extrusions. ISBN 978-80-89244-18-8.

2. Engineering Materials for Economists

ATWATER, M. A., 2019. Materials and manufacturing: an introduction to how they work and why it matters. McGrawHill Education. ISBN 9781260122312.

SHAMSUDDIN, M., 2016. Physical Chemistry of Metallurgical Processes. John Wiley & Sons. ISBN 9781119078326.

HAIDEMENOPOULOS, G. N., 2018. Physical Metallurgy: Principles and Design. CRC Press LLC. ISBN 9781138627680.

BREBBIA, C. A. a J. J. CONNOR, 2018. Progress in Materials Science and Engineering. Springer. ISBN 9783319753393.

COLPAERT, H. a L. V. C. S. ANDRÉ, 2018. Metallography of steels: interpretation of structure and the effects of processing. ASM International. ISBN 9781627081498.

LUMLEY, R., 2018. Fundamentals of Aluminium Metallurgy: Recent Advances. Elsevier Science & Technology. ISBN 9780081020630.

BHADURI, A., 2018. Mechanical Properties and Working of Metals and Alloys. Springer. ISBN 9789811072086.

ASKELAND, D., R. FULAY, P. P. WRIGHT a J. WENDELIN, 2010. The Science and Engineering of Materials. Cengage Learning. ISBN 978-0-495-29602-7.

ASHBY, M. F. a D. R. H. JONES, 2012. Engineering Materials 1, An Introduction to Properties, Applications and Design. Elsevier. ISBN 978-0-0080-96665-6.

ESKIN, D. G. a J. MI, 2018. Solidification Processing of Metallic Alloys under External Fields. Springer. ISBN 9783319948416.

VANDER VOORT, G. F., 1999. Metallography: principles and practices. ASM International. ISBN 9780871706720.

SIMMONS, J. P., L. F. DRUMMY, CH. A. BOUMAN a M. DE GRAEF, 2019. Statistical Methods for Materials Science: The Data Science of Microstructure Characterization. CRC Press. ISBN 9781498738217.

3. Materials for Production Processes - for Master study programme

ATWATER, M. A., 2019. Materials and manufacturing: an introduction to how they work and why it matters. McGrawHill Education. ISBN 9781260122312.

BREBBIA, C. A. a J. J. CONNOR, 2018. Progress in Materials Science and Engineering. Springer. ISBN 9783319753393.

KAMPF, R., V. STEHEL, D. KUČERKA, J. KMEC, X. LIU, B. LI a W. CUI, 2017. Logistics of production processes. University textbook. The Institute of Technology and Business in České Budějovice. ISBN 978-80-7468-115-8.

KMEC, J., Š. VALENČÍK, M. GOMBÁR, M. KARKOVÁ a A. VAGASKÁ, 2016. Logistic Approach of Building and Development of Production System. Nase More. 63(3), 145-149. ISSN 0469-6255.

4. Methods of Production Processes Management and Planning - for Master study programme

KMEC, J., M. KARKOVÁ a J. MAJERNÍK. 2018. PLANNING MANUFACTURING PROCESSES OF SURFACE FORMING WITHIN INDUSTRY 4.0. MM Science Journal. -(12), 2680-2685. ISSN 1803-1269.

KAMPF, R., V. STEHEL, D. KUČERKA, J. KMEC, X. LIU, B. LI a W. CUI, 2017. Logistics of production processes. University textbook. The Institute of Technology and Business in České Budějovice. ISBN 978-80-7468-115-8.

KMEC, J., Š. VALENČÍK, M. GOMBÁR, M. KARKOVÁ a A. VAGASKÁ, 2016. Logistic Approach of Building and Development of Production System. Nase More. 63(3), 145-149. ISSN 0469-6255.

VALENCIK, S., T. STEJSKAL, J. KMEC, L. BICEJOVA a M. GOMBÁR, 2016. Manufacturing Systems Building and Developing. Key Engineering Materials. Trans Tech Publications. -(-), 514-522. ISSN 1013-9826.

VAGASKÁ, A., P. MICHAL, M. GOMBÁR, E. FECHOVÁ a J. KMEC, 2016. Simulation of technological process by usage neural networks and factorial design of experiments. MM Science Journal. -(-), 999-1003. ISSN 1803-1269.

5. Progressive Technologies for Production Processes - for Master study programme

KMEC, J., E. SPIŠÁK, D. KUČERKA, M. GOMBÁR a P. MICHAL, 2015. Technologies For Automotive. The Institute of Technology and Business in České Budějovice. ISBN 978-80-7468-098-4.

KMEC, J., D. KUČERKA, M. GOMBÁR, L. BIČEJOVÁ, L. SOBOTOVÁ, L. OPEKAROVÁ, J. STRAKOVÁ, A. VAGASKÁ a R. HRMO, 2014. Waterjet for Practice. RAM-Verlag. ISBN 978-3-942303-27-9.

KMEC, J., L. SOBOTOVÁ, J. DOBROVIČ, L. BIČEJOVÁ a M. GOMBÁR, 2012. Categories of Hydroerosion Factors. RAM-Verlag. ISBN 978-3-942303-11-8.

KAMPF, R., V. STEHEL, D. KUČERKA, J. KMEC, X. LIU, B. LI a W. CUI, 2017. Logistics of production processes. University textbook. The Institute of Technology and Business in České Budějovice. ISBN 978-80-7468-115-8.
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