Examination areas and Suggested study literature

MENDELU
Provozně
ekonomická
fakulta

1   Economics and Management (Master)

Entrance exam from:

Economics and Management

Specification of examination areas:

a) Principles of market mechanism functioning.
b) The consumer theory, market demand formation.
c) The firm theory, market supply formation.
d) Market equilibrium and efficiency, market structures' models, production factors' markets.
e) Principles of market economy functioning. Macroeconomic aggregates.
f) Equilibrium of market economy, business cycles and economic growth.
g) Money and money market, Inflation.
h) The role of the state in the economy, macroeconomic policies.
i) Managerial functions, roles and competencies.
j) Management techniques focused on people, processes and organization.
k) Management environment and its analysis.
l) Enterprise as an economic entity (stakeholders, risk in business, phases of company life cycle).
m) Property and financial structure of the company (characteristics of the company's assets and financial resources, depreciation of assets, cost of capital).
n) Financial management of the company (profit/loss and its revenue and expense relationship, internal and external funding, cost classification and management, cost modelling, cash flow and its management, basics of financial analysis).
o) Investment activity of the company (types of investments, economic efficiency of investments, methods for economic assessment of investment, risk in investment decision making).
p) Personnel management (planning, evaluation and remuneration of employees).

Suggested study literature:

- MANKIW, N. Gregory. *Principles of Economics*. 8th edition. Boston: Cengage Learning, 2017, 888 p. ISBN 978-130558512-6.
- GRIFFIN, Ricky W. *Management*. 11th edition. South-Western, USA: Cengage Learning, 2012. 720 p. ISBN 978-111196971-4.
- EBERT, Ronald J., GRIFFIN, Ricky W. *Business Essentials*. 11th edition. Boston: Pearson, 2016. 696 p. ISBN 978-013412996-9.
- ARNOLD, Glen. *Corporate financial management*. 5th edition. Harlow, England: Pearson, 2012, 992 p. ISBN 978-027375883-9.

Sample test available at: https://www.pef.mendelu.cz/en/admission-process

2   Open Informatics

Entrance exam from:

Informatics

Specification of examination areas:

a) Software development (algorithms, complexity, data types, structured and modular programming).

b) Object-oriented approach to software design (classes, bindings, inheritance).

c) Theoretical foundations of computer science (propositional and predicate logic, sets, graphs).

d) Database systems (data models, relational databases, SQL).

e) Development of information systems (life cycle models, development methodologies, analysis, UML).

f) Computer architecture and computer networks (computer construction, computer network protocols, network hardware).

g) Operating systems architecture (principles, process management, filesystem management, user management).

Suggested study literature:

- ARLOW, Jim and NEUSTADT, Ila. *UML 2 and the Unified Process: Practical Object-Oriented Analysis and Design*. 2nd edition. Boston, Massachusetts, USA: Addison-Wesley, 2005, 624 p. ISBN 973-0321321275.

- FOSTER, Thomas. *Logic, induction and sets*. 1st edition. Cambridge: Cambridge University Press, 2003, 244 p. ISBN 973-0521826217.

- GROSS, Jonathan L., YELLEN, Jay and ZHANG, Ping. *Handbook of Graph Theory (Discrete Mathematics and Its Applications)*. 2nd edition. London: Chapman & Hall/CRC Press, 2013, 1630 p. ISBN 978-1439880180.

- KEOGH, Jim and GIANNINI, Mario. *OOP Demystified*. 1st edition. New York, New York, USA: McGraw-Hill Education, 2004, 288p. ISBN 978-0072253634.

- KIRCH-PRINZ, Ulla and PRINZ, Peter. *A Complete Guide to Programming in C++*. 1st edition. Burlington, Massachusetts, USA: Jones & Bartlett Learning, 2001, 848 p. ISBN 978-0763718176.

- KUROSE, James and ROSS, Keith. *Computer Networking: A Top-Down Approach*. 7th edition. London: Pearson, 2016, 864 p. ISBN 978-0133594140.

- RAMAKRISHNAN, Raghu and GEHRKE, Johannes. *Database Management Systems*. 3rd edition. New York, New York, USA: McGraw-Hill Education, 2002, 1104 p. ISBN 978-0072465631.

- STALLING, Williams. *Operating Systems: Internals and Design Principles*. 8th edition. London: Pearson, 2014. 800 p. ISBN 978-0133805918.

Sample test available at: https://www.pef.mendelu.cz/en/admission-process