

## Information sheet for the course Informatics

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|--|-------|-------|--|-----|------|
| <b>University:</b> <i>Alexander Dubček University of Trenčín</i>   |       |       |  |     |      |
| <b>Faculty:</b> <i>Faculty of special technology</i>   |       |       |  |     |      |
| <b>Course unit code:</b> <i>SaOA/B/1-21/d</i>  |       |       | <b>Course unit title:</b> <i>Informatics</i> |     |      |
| <b>Type of course unit:</b> <i>compulsory</i>  |       |       |  |     |      |
| <b>Planned types, learning activities and teaching methods:</b><br><i>2 hours laboratory exercises per week, full-time teaching method</i>   |       |       |  |     |      |
| <b>Number of credits:</b> 2  |       |       |  |     |      |
| <b>Recommended semester:</b> <i>1<sup>st</sup> semester in the 1<sup>st</sup> year (full-time)</i><br><i>2<sup>nd</sup> semester in the 1<sup>st</sup> year (part-time)</i>  |       |       |  |     |      |
| <b>Degree of study:</b> <i>I. (bachelor)</i>   |       |       |  |     |      |
| <b>Course prerequisites:</b> <i>none</i>   |       |       |  |     |      |
| <b>Assessment methods:</b><br><i>100% participation in laboratory exercises, the attainment of goals laboratory practice, well-designed two term papers. Twice during the semester written test - credit. In the evaluation of a total of 100 points necessary to obtain the required number of points for the grade classification: A- (92-100), B (83-91), C- (74-82), D (65-73) E (56-64) points.</i>   |       |       |  |     |      |
| <b>Learning outcomes of the course unit:</b><br><i>The student will acquire the basics of programming in C in Visual Studio Express as preparation for work in MATLAB. The student will also learn to use office suite Microsoft Office for the preparation of student work, scientific and engineering calculations.</i>  |       |       |  |     |      |
| <b>Course contents:</b><br><i>Algorithms and flowcharts - basic signs and principles. Development environment Visual Studio Express. Solving quadratic equations - flowchart. Branching (if statement), finding maxima cycles in C - flowcharts. For cycle, Do cycle, Do-While cycle and command Swich. Fields, Matrixs, sorting. Input/Output operations. Functions, Parameters of functions called value, Reference, Reference and Dereferenciou. Arithmetic of Pointers. Fundamentals of OOP: Classes, Objects, operator Overloading, Inheritance, Polymorphism. MS Word: formatting, styles, automatic generation of contents, indexes, formulas, tables, drawing pictures, etc. MS Excel: formatting charts. MS PowerPoint: transitions and animations in the presentation.</i>   |       |       |  |     |      |
| <b>Recommended of required reading:</b><br><i>W. J. ORVIS: Microsoft Excel pro vědce a inženýry, Computer Press, 1996, ISBN 80-85896-49-4.</i><br><i>P. HEROUT: Učebnice jazyka C. Kopp, České Budějovice, 2005, ISBN 80-7232-220-6.</i><br><i>H. M. DEITEL, P. J. DEITEL: C++ How to program. Pearson Education, Inc., Prentice-Hall, Inc., Upper Saddle River, New Jersey, 2010, ISBN 0-13-611726-0.</i><br><i>B. ECKEL: Myslíme v jazyku C++. Grada, Praha, 2000, ISBN 80-247-9009-2.</i><br><i>B.W. KERNIGHAM, D.M. RITCHIE: The C Programming Language. Prentice-Hall, Inc., 1988, ISBN 0-13-110362-8.</i><br><i>HARBISON, S.P., STEELE JR., G.: Referenční příručka jazyka C. Science, Veletiny, 1996, ISBN 80-901475-5-0.</i><br><i>SEDGEWICK, R.: Algoritmy v C. Softpress, Praha, 2003, ISBN 80-86497-56-9.</i><br><i>MCCONNELL, S.: Dokonalý kód. Umění programování a techniky tvorby software. Computer Press, Brno, 2006, ISBN 80-251-0849-X.</i> |       |       |  |     |      |
| <b>Language:</b> <i>Slovak</i>   |       |       |  |     |      |
| <b>Remarks:</b><br><i>The subject is provided in the winter semester of the first year of full-time study. Subject is required.</i>  |       |       |  |     |      |
| <b>Evaluation history</b><br><i>Total number of students being evaluated: 486</i>  |       |       |  |     |      |
| A  | B     | C     | D  | E   | FX   |
| 37,45  | 30,04 | 18,72 | 7,2  | 473 | 1,85 |
| <b>Lecturers:</b> <i>Ing. Milan Jus, PhD. instructor</i>   |       |       |  |     |      |

**Last modification:** *15.4.2014*

**Supervisor:** *prof. Ing. Alexej Chovanec, PhD., guarantee of the study program "Vehicles Maintenance and Repair"*