**Taras Shevchenko National University of Kiev**

Cybernetics faculty

Department of theory and technology of programming

**Author:** professor Lavrishcheva K.M.

##### Software engineering

Curriculum for students

in specialty 7.080201 “Informatics”

**Confirmed**

at the meeting of the Department of theory and technology of programming

Report #10

18th of June, 2012

Head of Department

Nikitchenko M.C.

**Confirmed**

by Academic Council of cybernetics faculty meeting

Report #11

21th of June, 2012

Dean of the faculty

Anisimov A.V.

Kyiv 2012

Curriculum of subject “Software engineering”

Author: professor Kateryna M. Lavrishcheva

Lecturer: professor Kateryna M. Lavrishcheva

Instructor: assistant Omelchuk L.L.

**Confirmed**

with scientific methods committee

“\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, 2012.

Head Committee

Khusainov D.Y.

Thematic scheme of lectures and labs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # lecture | Lecture title | Units | | |
| ЛLectures | Labs | Individual work |
|  | **Chapter 1. Software engineering** |  |  |  |
| 1 | Basic terms of software engineering | 2 |  | 2 |
| 2 | Life cycle models. Standard life cycle – ISO/IEC 12207 | 2 |  | 2 |
| 3 | Methods of programming systems development | 2 |  | 2 |
| 4 | Engineering of applications, domains, and family systems | 2 |  | 2 |
| 5 | Infrastructure of programming project development | 2 |  | 2 |
| 6 | Contemporary methods and instruments of project management | 2 |  | 3 |
| 7 | Description languages of subject areas | 2 |  | 2 |
| 8 | Transformation and generation methods of programs description (Methods to transform and generate description programs and Data) | 2 |  | 4 |
| 9 | Interaction of programming languages and programs in modern environments | 2 |  | 2 |
|  | Chapter 1 test |  |  |  |
|  | **Charter 2. Theory and practice in estimation of programming product and processes** |  |  |  |
| 10 | Measurement theory. Software product metrics | 2 |  | 4 |
| 11 | Estimation of products and life cycle processes | 2 |  | 2 |
| 12 | Models of evaluation product quality. Software quality standards - ISO/IEC 9126 | 2 |  | 2 |
| 13 | Methods to evaluate software scale, risk, efforts, and terms | 2 |  | 2 |
| 14 | Technology of productive lines | 2 |  | 2 |
| 15 | Compilation method to produce software from final resources (readymade Reusable Component – RC ) | 2 |  | 2 |
| 16 | Interconnection of programming RC in software development | 2 |  | 2 |
| 17 | Quality management of RC and software systems, applied systems, families systems | 2 |  | 3 |
|  | Chapter 2 test |  |  |  |
|  | **TOTAL** | **34** |  | **38** |

Total of units – 72, including

**lectures – 34 hours,**

**individual work – 38 hours.**