| Add | . 3  |                          | Course program       | n for          | the f                         | rst, second an                               | d thi        | rd degre      | e of studies | 5      |      |  |  |
|-----|--|--------------------------|----------------------|----------------|-------------------------------|--|--------------|---------------|--------------|--------|------|--|--|
| 1.  | Course ti  | itle I                   |                      |                | Design Process                |  |              |               |              |        |      |  |  |
| 2.  | Code   |                          |                      |                |                               | 282  |              |               |              |        |      |  |  |
| 3.  | Study group(s)   |                          |                      |                | IND                           |  |              |               |              |        |      |  |  |
| 4.  | The organizer of the study program   |                          |                      |                |                               | Faculty of Mechanical Engineering - Skopje,  |              |               |              |        |      |  |  |
|     | (unit, institute, department)  |                          |                      |                |                               | Ss. Cyril and Methodius University in Skopje |              |               |              |        |      |  |  |
| 5.  | Level (first, second, third)   |                          |                      |                |                               | First  |              |               |              |        |      |  |  |
| 6.  | Academic year / semester   |                          |                      |                |                               |  |              |               | r of ECTS 6  |        |      |  |  |
|     |  |                          |                      |                |                               |  |              | credits       |              |        |      |  |  |
| 8.  | Instructor   |                          |                      |                |                               | Assoc. Prof. Sofija Sidorenko, PhD           |              |               |              |        |      |  |  |
| 9.  | Prerequisites  |                          |                      |                |                               | Industrial Design - signature                |              |               |              |        |      |  |  |
| 10. | Course objectives (competences):<br>Training of the students for design process and methods for solving of design tasks.   |                          |                      |                |                               |  |              |               |              |        |      |  |  |
| 4.4 |  | n tasks.                 |                      |                |                               |  |              |               |              |        |      |  |  |
| 11. | Course content:<br>Definition of the design task, user population; design process planning, engineering  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     | specifications generation, concepts generation, concepts evaluation, creation and analyze of   |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     | design solutions. Material selection methods. Design from the viewpoint of manufacturers.<br>Design from the viewpoint of users. Product language: aesthetic, signal and symbolic functions. |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     |  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
| 12. | Study methods: interactive lectures, auditory practice and/or laboratory practice, self running  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     |  |                          | projects, self learr |                |                               |  |              |               |              |        |      |  |  |
| 13. | Total hou  |                          | • •                  |                | 6 ECTS x 30 hours = 180 hours |  |              |               |              |        |      |  |  |
| 14. | Hours allocation per activity:   |                          |                      |                |                               | 30 + 30 + 60 + 0 + 60 = 180                  |              |               |              |        |      |  |  |
| 15. | Lectures/  | Lab                      |                      | 15.1           |                               | Teaching lectures                            |              |               |              | 30 hoi | urs  |  |  |
|     |  |                          |                      | 15.2           | 2. F                          | ractice, semina                              | rs, te       | am            | 30 hours     |        | urs  |  |  |
|     |  |                          |                      |                |                               | work   |              |               |              |        |      |  |  |
| 16. | Project W  | Project Work/Assignments |                      |                | I.   F                        | Project assignments                          |              | 60 hours      |              | urs    |      |  |  |
|     |  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     |  | 16                       |                      |                | 2. Selfrunning assignments    |  |              | ents          | 0 hours      |        |      |  |  |
|     |  |                          |                      |                | <u> </u>                      |  |              |               | CO houro     |        |      |  |  |
|     |  | 16                       |                      |                | э.   г                        | Home studying                                |              |               | 60 hours     |        | irs  |  |  |
| 17. | Points/M   | Points/Marks:            |                      |                |                               |  |              |               |              |        |      |  |  |
|     | 17.1. Tests 60   |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     |  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     | 17.2. P  | rojects                  |                      |                |                               |  |              | 30            |              |        |      |  |  |
|     | 17.3. A  | ttendan                  | се                   |                |                               |  |              | 10            |              |        |      |  |  |
| 18. | Grading scale  |                          |                      |                |                               | Under 50                                     |              |               | 5 (five) (F) |        |      |  |  |
| 10. | Oracing (  | Grading scale            |                      |                | 51 - 60 points                |  |              | 6 (six) (E)   |              |        |      |  |  |
|     |  |                          |                      |                | 61 - 70 points                |  |              | 7 (seven) (D) |              |        |      |  |  |
|     |  |                          |                      |                | 71 - 80 points                |  |              | 8 (eight) (C) |              |        |      |  |  |
|     |  |                          |                      |                | 81 - 90 points                |  |              |               | 9 (nine) (B) |        |      |  |  |
|     |  |                          |                      |                |                               | 91 - 100                                     | 10 (ten) (A) |               |              |        |      |  |  |
| 19. | Prerequisites for taking the final exam  |                          |                      |                |                               | Finished activities 15.1; 15.2; 16.1         |              |               |              |        |      |  |  |
| 20. | Language of Instruction  |                          |                      |                | Macedonian language           |  |              |               |              |        |      |  |  |
| 20. | Course evaluation  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
| 21. | Course e   | valuatio                 |                      |                |                               |  |              |               |              |        |      |  |  |
| 22. | Textbooks  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     |  | Instruc                  | tion materials       |                |                               |  |              |               |              |        |      |  |  |
|     | No. Author   |                          |                      |                | Title                         |  |              |               | Publisher    |        | Year |  |  |
|     | 22.1.  | 1.                       | Tatjana Kandikjar    | Design Process |                               |  |              | internal bo   |              | 2011   |      |  |  |
|     | 22.1.  | 2.                       |                      |                |                               |  |              |               |              |        |      |  |  |
|     |  | 2.<br>3.                 |                      |                |                               |  |              |               |              |        |      |  |  |
|     |  |                          |                      |                |                               |  |              |               |              |        |      |  |  |
|     | 22.2. Supplemental Instruction Materials   |                          |                      |                |                               |  |              |               |              |        |      |  |  |

| No. | Author                         | Title                | Publisher                | Year |
|-----|--------------------------------|----------------------|--------------------------|------|
| 1.  | Gerhard Heufler                | Design Basics        | Verlag Niggli,<br>AG     | 2004 |
| 2.  | Michael Ashby, Kara<br>Johnson | Materials and Design | Butterworth<br>Heinemann | 2002 |
|     |                                |                      |                          |      |