| Fizik Bölümü / PHYSICS /                     |   |   |               |                   |                 |                |  |  |  |  |  |
|--|---|---|---------------|-------------------|-----------------|----------------|--|--|--|--|--|
| Course Code                                  | Course Name   | Teorical  | Practice      | Laboratory        | Credits         | ECTS           |  |  |  |  |  |
| FZK-2014                                     | Programming with Pascal İn Physics  | 2.00  | 2.00          | 0.00              | 3.00            | 7.00           |  |  |  |  |  |
| Course Detail                                |   |   |               |                   |                 |                |  |  |  |  |  |
| Course Language                              | : Turkish   |   |               |                   |                 |                |  |  |  |  |  |
| Qualification Degree                         | : Bachelor  |   |               |                   |                 |                |  |  |  |  |  |
| Course Type                                  | : Optional  |   |               |                   |                 |                |  |  |  |  |  |
| Preconditions                                | : Not   |   |               |                   |                 |                |  |  |  |  |  |
| Objectives of the Course                     | : This course has been planned to be able to quote the given problems to Pasca ability to solve the given problems. | : This course has been planned to be able to quote the given problems to Pascal programming language by using algorithm and flow charts and to improve the ability to solve the given problems.   |               |                   |                 |                |  |  |  |  |  |
| Course Contents                              |   | : İntroduction to algorithms,Problem-solving by using flowcharts,Overview of Programming Languages,General structure of Pascal language and basic concepts,Data Types,Operators,Comparison commands,Loop commands,İnfinite loop and nested loop concepts,arrays,functions,File operations,Application of physics at Pascal language,Application of physics at Pascal language |               |                   |                 |                |  |  |  |  |  |
| Recommended or Require Reading               | d : Pascal Programlama Dili, 3. Baskı, Seçkin Yayınevi, Dr. Fahri Vatansever, 200 P.S. Grover, 2001.                | 09. Pascal Programn   | ning Fundamer | ntals, Allied Pub | lishers Limited | , 8th Reprint, |  |  |  |  |  |
| Planned Learning Activities Teaching Methods | s and : Practice in course and homeworks  |   |               |                   |                 |                |  |  |  |  |  |
| Recommended Optional Programme Components    | : Repetition of basic software knowledge is helpful   |   |               |                   |                 |                |  |  |  |  |  |
| Instructors                                  | : Res. Assist. Dr. Çağlar Püsküllü  |   |               |                   |                 |                |  |  |  |  |  |
| Instructor's Assistants                      | : Res. Ass. Dr. Çağlar Püsküllü   |   |               |                   |                 |                |  |  |  |  |  |
| Presentation Of Course                       | : Face to face  |   |               |                   |                 |                |  |  |  |  |  |

## Course Outcomes

## Upon the completion of this course a student :

1 Create algorithm and flow diagram for the solution of a faced problem.

2 Analyze some problem by using Pascal programming language

3 Generate a solution by using Pascal programming language

4 Model and analyze of the physics problems in Pascal language

5 Develope Pascal language

## Preconditions

| Weekly Co | ontents  |  |            |                  |                  |
|-----------|--|--|------------|------------------|------------------|
|           | Teorical   | Practice   | Laboratory | Preparation Info | Teaching Methods |
| 1.Week    | *İntroduction to algorithms                              | *İntroduction to algorithms                              |            |                  |                  |
|           | *Problem-solving by using flowcharts                     | *Problem-solving by using flowcharts                     |            |                  |                  |
| 3.Week    | *Overview of Programming<br>Languages                    | *Overview of Programming<br>Languages                    |            |                  |                  |
|           | *General structure of Pascal language and basic concepts | *General structure of Pascal language and basic concepts |            |                  |                  |
| 5.Week    | *Data Types  | *Data Types  |            |                  |                  |
| 6.Week    | *Operators   | *Operators   |            |                  |                  |
| 7.Week    | *Comparison commands                                     | *Comparison commands                                     |            |                  |                  |
| 8.Week    | *Loop commands   | *Loop commands   |            |                  |                  |
|           | *İnfinite loop and nested loop<br>concepts               | *İnfinite loop and nested loop concepts                  |            |                  |                  |
| 10.Week   | *Mid-term exam   |  |            |                  |                  |
| 11.Week   | *Arrays  | *Arrays  |            |                  |                  |
| 12.Week   | *Functions, File operations                              | *Functions, File operations                              |            |                  |                  |
|           | *Application of physics at Pascal language I             | *Application of physics at Pascal language I             |            |                  |                  |
|           | *Application of physics at Pascal language II            | *Application of physics at Pascal language II            |            |                  |                  |

| Assesment | Methods | % |
|-----------|---------|---|

1 Mid Term Exam 1:40.000

2 Final : 60.000

ECTS Workload

| Activities              | Count | Time(Hour) | Sum of Workload |
|-------------------------|-------|------------|-----------------|
| Vize                    | 1     | 2.00       | 2.00            |
| Final                   | 1     | 2.00       | 2.00            |
| Attending lectures      | 14    | 4.00       | 56.00           |
| Preparation for midterm | 1     | 16.00      | 16.00           |
| Preparation for final   | 1     | 22.00      | 22.00           |
| Seminar                 | 4     | 1.00       | 4.00            |
| Assignment 1            | 4     | 14.00      | 56.00           |
| Assignment 2            | 2     | 12.00      | 24.00           |
| Preliminary Study       | 14    | 1.00       | 14.00           |
|                         |       | Total      | : 196.00        |

Sum of Workload / 30 ( Hour ): 7

ECTS: 7.00

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| Progra | am <i>F</i> | And Outcom  | erelatio | וונ    |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|--------|-------------|-------------|----------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|        | P.C         | O. 1 P.O. 2 | P.O. 3   | P.O. 4 | P.O. 5 | P.O. 6 | P.O. 7 | P.O. 8 | P.O. 9 | P.O. 10 | P.O. 11 | P.O. 12 | P.O. 13 | P.O. 14 | P.O. 15 | P.O. 16 | P.O. 17 | P.O. 18 | P.O. 19 | P.O. 20 | P.O. 21 | P.O. 22 | P.O. 23 | P.O. 24 |
| L.O. 1 |             | 4 4         | 5        | 3      | 5      | 4      | 3      | 4      | 4      | 4       | 5       | 4       | 4       | 4       | 4       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| L.O. 2 | 2 4         | 4 4         | 5        | 3      | 5      | 4      | 3      | 4      | 4      | 4       | 5       | 4       | 4       | 4       | 4       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| L.O. 3 | 3 2         | 4 4         | 5        | 3      | 5      | 4      | 3      | 4      | 4      | 4       | 5       | 4       | 4       | 4       | 4       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| L.O. 4 | . 4         | 4 4         | 5        | 3      | 5      | 4      | 3      | 4      | 4      | 4       | 5       | 4       | 4       | 4       | 4       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |

L.O. 5 4

Ders/Program Çıktıları İlişkisi P.O. 1 P.O. 2 P.O. 3 P.O. 4 P.O. 5 P.O. 6 P.O. 7 P.O. 8 P.O. 9 P.O. 10 P.O. 11 P.O. 12 P.O. 13 P.O. 14 P.O. 15 P.O. 16 P.O. 17 P.O. 18 P.O. 19 P.O. 20 P.O. 21 P.O. 22 P.O. 23 P.O. 24 P.O. 2 4 4 5 3 5 4 3 4 4 4 5 4 4 0 0 0 0 0 0 0 0 0