**T.C.**

**ABDULLAH GÜL UNIVERSITY**

**Computer Engineering Undergraduate Program**

*(For students who start their undergraduate education in Fall 2023)*

**(Semester 1) - Year 1, Fall Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **PreReq** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| MATH 151 | Calculus I |  | 5 | 0 | 5 | 6 |
| PHYS 101 | Physics I |  | 3 | 2 | 4 | 5 |
| COMP 101 | Art of Computing |  | 3 | 2 | 4 | 6 |
| CHEM 101 | Chemistry for Engineers |  | 3 | 2 | 4 | 5 |
| GLB 101 | Agu Ways |  | 3 | 0 | 3 | 4 |
| ENG 101 | English I |  | 4 | 0 | 4 | 4 |
| TOTAL |  | 21 | 6 | 24 | 30 |

**(Semester 2) - Year 1, Spring Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **PreReq** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| MATH 152 | Calculus II | MATH 151 | 5 | 0 | 5 | 6 |
| PHYS 102 | Physics II |  | 3 | 2 | 4 | 5 |
| COMP 112 | Object Oriented Programming | COMP 101 | 3 | 2 | 4 | 6 |
| COMP 104 | Exploring Computer Engineering |  | 3 | 2 | 4 | 4 |
| CP\_100\_COMP | Career Planning |  | 1 | 0 | 1 | 1 |
| GLB1XX | Global Issues Elective I |  | 3 | 0 | 3 | 4 |
| ENG 102 | English II | ENG 101 | 4 | 0 | 4 | 4 |
| TOTAL |  | 22 | 6 | 25 | 30 |

**(Semester 3) - Year 2, Fall Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **PreReq** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| MATH 203 | Linear Algebra |  | 3 | 0 | 3 | 5 |
| COMP 203 | Data Structures and Algorithms | COMP 112 | 3 | 2 | 4 | 7 |
| COMP 205 | Mobile Programming | COMP 101 | 3 | 2 | 4 | 7 |
| EE 203 | Digital Design |  | 3 | 0 | 3 | 4 |
| EE 213 | Digital Design Lab |  | 1 | 2 | 2 | 2 |
| GLB2XX | Global Issues Elective II |  | 3 | 0 | 3 | 4 |
| TURK XXX | Turkish Language Pool - Elective |  | 2 | 0 | 2 | 2 |
| TOTAL |  | 18 | 6 | 21 | 31 |

**(Semester 4) - Year 2, Spring Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **PreReq** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| MATH 206 | Discrete Mathematics |  | 4 | 0 | 4 | 5 |
| COMP 202 | Software Engineering | COMP 101 | 3 | 0 | 3 | 7 |
| COMP 204 | Database Management Systems | COMP 101 | 3 | 0 | 3 | 6 |
| COMP206 | Mathematical Modeling And Algorithmic Thinking | COMP203 | 3 | 2 | 4 | 5 |
| GLB2XX | Global Issues Elective III |  | 3 | 0 | 3 | 4 |
| TURK XXX | Turkish Language Pool - Elective |  | 2 | 0 | 2 | 2 |
| TOTAL |  | 17 | 2 | 18 | 29 |

**(Semester 5) - Year 3, Fall Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **PreReq** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| COMP 351 | Summer Training I |  | 0 | 2 | 1 | 2 |
| MATH 301 | Probability and Statistics | MATH 152 | 3 | 0 | 3 | 5 |
| COMP 301 | Analysis of Algorithms | COMP 203 | 3 | 2 | 4 | 6 |
| COMP 303 | Operating Systems | COMP 203 | 3 | 0 | 3 | 6 |
| COMP 305 | Computer Organization | EE 203 | 3 | 0 | 3 | 6 |
| GLB3XX | Global Issues Elective IV |  | 3 | 0 | 3 | 4 |
| HIST XXX | History of Turkey Pool - Elective |  | 2 | 0 | 2 | 2 |
| TOTAL |  | 17 | 4 | 19 | 31 |

**(Semester 6) - Year 3, Spring Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **PreReq** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| COMP 302 | System Programming | COMP 112 | 3 | 2 | 4 | 5 |
| EE 304 | Embedded Systems | EE 203 | 3 | 2 | 4 | 6 |
| COMP 306 | Formal Languages and Automata Theory |  | 3 | 2 | 4 | 6 |
| COMP 308 | Computer Networks |  | 3 | 0 | 3 | 6 |
| XXX | Nontechnical Elective-4 |  |  |  |  | 4 |
| HIST XXX | History of Turkey Pool - Elective |  | 2 | 0 | 2 | 2 |
| TOTAL |  | 14 | 6 | 17 | 29 |

**(Semester 7) - Year 4, Fall Semester**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **PreReq** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| COMP 451 | Summer Training II | COMP351 | 0 | 2 | 1 | 4 |
| COMP 491 | Capstone Project I |  | 2 | 0 | 2 | 8 |
|  | Technical Elective |  |  |  |  | 5 |
|  | Technical Elective |  |  |  |  | 5 |
|  | Technical Elective |  |  |  |  | 5 |
| XXX | Nontechnical Elective-3 |  |  |  |  | 3 |
| OHS 401 | Occupational Health and Safety I |  | 2 | 0 | 2 | 1 |
| TOTAL |  | 4 | 2 | 5 | 31 |

**(Semester 8) - Year 4, Spring Semester**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **Theoretical Hours** | **Practical Hours** | **Credits** | **ECTS** |
| COMP 400 | Workplace Experience | 5 | 0 | 5 | 28 |
| OHS 402 | Occupational Health and Safety II | 1 | 0 | 1 | 1 |
| TOTAL | 6 | 0 | 6 | 29 |

**Technical Electives**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |
| EE 423 | Optics and Photonics | 3 | 0 | 3 | 5 |
| EE 424 | Fiber Optic Communication | 3 | 0 | 3 | 5 |
| EE 434 | Sensors and Measurement | 3 | 0 | 3 | 5 |
| EE 440 | Neural Engineering | 3 | 0 | 3 | 5 |
| EE 443 | Biomedical Instrumentation and Signal Analysis | 3 | 0 | 3 | 5 |
| EE 465 | Data Mining | 3 | 0 | 3 | 5 |
| EE 473 | Introduction to Robotics | 3 | 0 | 3 | 5 |
| COMP 403 | Blockchain and Cryptocurrencies | 3 | 0 | 3 | 5 |
| COMP 411 | Communication Networks | 3 | 0 | 3 | 5 |
| COMP 413 | Network Security | 3 | 0 | 3 | 5 |
| COMP 414 | Internet of Things | 3 | 0 | 3 | 5 |
| COMP 430 | Digital Image Processing | 3 | 0 | 3 | 5 |
| COMP 431 | Computer Vision | 3 | 0 | 3 | 5 |
| COMP 455 | Linux For Engineers and Scientists | 3 | 0 | 3 | 6 |
| COMP 461 | Deep Learning | 3 | 0 | 3 | 5 |
| COMP 462 | Bioinformatics | 3 | 0 | 3 | 5 |
| COMP 463 | Computational Genomics | 3 | 0 | 3 | 5 |
| COMP 464 | Pattern Recognition | 3 | 0 | 3 | 5 |
| COMP 465 | Artificial Intelligence | 3 | 0 | 3 | 5 |
| COMP 482 | Parallel Architectures | 3 | 0 | 3 | 5 |

**GLB1XX Electives**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | Course Name | Lec**.** | **Lab** | Credits | ECTS |
| GLB102 | Innovation and Entrepreneurship | 3 | 0 | 3 | 4 |
| GLB104 | Agu Ways II | 3 | 0 | 3 | 4 |

**GLB2XX Electives**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | Course Name | Lec**.** | **Lab** | Credits | ECTS |
| GLB203 | Good Health and Well Being | 3 | 0 | 3 | 4 |
| GLB205 | Sustainable Cities & Communities | 3 | 0 | 3 | 4 |
| GLB206 | Clean Water & Sanitation | 3 | 0 | 3 | 4 |
| GLB207 | Responsible Consumption and Production | 3 | 0 | 3 | 4 |
| GLB209 | Innovation and Entrepreneurship | 3 | 0 | 3 | 4 |
| GLB210 | Reduced Inequalities | 3 | 0 | 3 | 4 |
| GLB270 | Affordable & Clean Energy | 3 | 0 | 3 | 4 |

**GLB3XX Electives**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | Course Name | Lec**.** | **Lab** | Credits | ECTS |
| GLB301 | Sustainability | 3 | 0 | 3 | 4 |