**Study Plan of BE (Petroleum & Gas Engineering)**

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| **SEMESTER-I** | **SEMESTER-II** |
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| Course Code | Course Title | CREDIT HOURS |
| Theory | Lab | Total |
| PGE-111 | Fundamentals of Petroleum Engineering | 3 | 0 | 3 |
| PGE-112 | Workshop Practice | 0 | 2 | 2 |
| BS-101 | Applied Chemistry | 2 | 1 | 3 |
| BS-102 | Calculus | 3 | 0 | 3 |
| HUM-101 | Islamic Studies /Ethics | 2 | 0 | 2 |
| HUM-102 | Functional English | 3 | 0 | 3 |
| Total | 13 | 3 | 16 |

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| Course Code | Course Title | CREDIT HOURS |
| Theory | Lab | Total |
| PGE-103 | Applied Geology | 2 | 1 | 3 |
| PGE-114 | Engineering Drawing | 0 | 2 | 2 |
| BS-103 | Applied Physics | 3 | 1 | 4 |
| HUM-103 | Pakistan Studies | 2 | 0 | 2 |
| HUM-104 | Technical Report Writing & Communication Skills | 3 | 0 | 3 |
| CSE-159 | Computer Programming and Software Application | 2 | 1 | 3 |
| Total | 12 | 5 | 17 |

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| **SEMESTER-III** | **SEMESTER-IV** |
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| **Course Code** | **Course Title** | **CREDIT HOURS** |
| Theory | Lab | Total |
| PGE-211 | Fluid Mechanics | 2 | 1 | 3 |
| PGE-212 | Mechanics of Materials | 2 | 0 | 2 |
| PGE-243 | Petroleum Geology and Geophysical Exploration | 3 | 0 | 3 |
| PGE-244 | Applied Thermodynamics | 2 | 1 | 3 |
| BS-201 | Differential Equation | 3 | 0 | 3 |
| EE-214 | Introduction to Electrical Engineering | 2 | 1 | 3 |
| Total | 14 | 3 | 17 |

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| **Course Code** | **Course Title** | **CREDIT HOURS** |
| Theory | Lab | Total |
| PGE-215 | Unconventional Reservoirs | 2 | 0 | 2 |
| PGE-226 | Drilling Engineering | 3 | 1 | 4 |
| PGE-227 | Petrophysics | 2 | 1 | 3 |
| PGE-228 | Properties of Reservoir Fluids | 3 | 1 | 4 |
| BS-202 | Complex Variables and Linear Transform | 3 | 0 | 3 |
| HUM-201 | Professional Ethics | 2 | 0 | 2 |
| Total | 15 | 3 | 18 |

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| **SEMESTER-V** | **SEMESTER-VI** |
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| **Course Code** | **Course Title** | **CREDIT HOURS** |
| Theory | Lab | Total |
| PGE-321 | Well Logging | 3 | 1 | 4 |
| PGE-322 | Reservoir Engineering | 3 | 1 | 4 |
| PGE-333 | Drilling Fluids and Hydraulics | 3 | 1 | 4 |
| PGE-344 | Reservoir Geo-mechanics | 2 | 0 | 2 |
| BS-301 | Probability and Statistics | 3 | 0 | 3 |
| PGE-321 | Well Logging | 3 | 1 | 4 |
| Total | 14 | 3 | 17 |

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| **Course Code** | **Course Title** | **CREDIT HOURS** |
| Theory | Lab | Total |
| PGE-325 | Petroleum Production Engineering | 3 | 1 | 4 |
| PGE-336 | Gas Reservoir Engineering | 3 | 1 | 4 |
| PGE-347 | Petroleum Refinery Engineering | 3 | 1 | 4 |
| PGE-368 | Project Planning and Management | 2 | 1 | 3 |
| BS-352 | Numerical Analysis | 2 | 0 | 2 |
| Total | 13 | 4 | 17 |

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| **SEMESTER-VII** | **SEMESTER-VIII** |
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| **Course Code** | **Course Title** | **CREDIT HOURS** |
| Theory | Lab | Total |
| PGE-431 | Well Testing | 3 | 1 | 4 |
| PGE-332 | Well Completions and Integrity | 3 | 1 | 4 |
| PGE-433 | Reservoir Simulation | 3 | 1 | 4 |
| PGE-434 | Natural Gas Engineering | 2 | 1 | 3 |
| PGE-499 | Final Year Project – I | 0 | 3 | 3 |
| Total | 11 | 7 | 18 |

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| **Course Code** | **Course Title** | **CREDIT HOURS** |
| Theory | Lab | Total |
| PGE-415 | Petroleum Economics | 3 | 0 | 3 |
| PGE-446 | Instrumentation and Process Control | 2 | 1 | 3 |
| PGE-437 | Principles of Enhanced Oil Recovery | 3 | 1 | 4 |
| PGE-468 | Environment and Safety Management | 3 | 0 | 3 |
| PGE-499 | Final Year Project-II | 0 | 3 | 3 |
| Total | 11 | 5 | 16 |

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