# TEMPLATE FOR COURSE SPECIFICATION

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| HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAM REVIEW |

**COURSE SPECIFICATION**

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| This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the program specification. |

 **Lecturer: Dr. Sadeem Abbas Fadhil**

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| 1. Teaching Institution | Al-Nahrain University/ College of Science |
| 2. University Department/Centre | Chemistry department |
| 3. Course title/code | Physics1 |
| 4. Modes of Attendance offered | Physical attendance |
| 5. Semester/Year | 1st /2022 |
| 6. Number of hours tuition (total) | 30 |
| 7. Date of production/revision of this specification | 24/10/2022 |
| 8. Aims of the Course:  |
| * Understanding the main rules in static electricity and the laws that govern it.
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| * Learning how to deal with the electrical devices safely.
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| * Learning how to use the electrical measuring devices in determining the electrical parameters for materials.
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| 9· Learning Outcomes, Teaching ,Learning and Assessment Method |
| 1. Cognitive goals.

 A1. Definition of electricity, the laws related to it, as well as the electric fields accompanying charged particles, methods of derivation for calculating electric field strength, electric potential and current identificationA2. Resistors and their types and areas of use and applications.A3. Definition of electric current and how to connect electrical circuits and calculate unknowns in them. |
| B. The skills goals special to the course. B1. To give the student theoretical knowledge of electricity.B2. Learning the main rules in electricity.B3. Learning how to deal with electrical devices. |
| Teaching and Learning Methods |
|  Attending lectures, where the subject is first discussed by the lecturer and some examples are solved, then the lecturer received the questions from the students. Finally, the students are asked to participate in solving the problems. In addition daily exams and quizzes are made from time to time to evaluate the understanding of the subject materials. |
| Assessment methods |
| 1. Daily exams and quizzes.
2. Participation in solving the problems
3. Attendance and paying attention to the lecture
4. Mid-term exams
5. Final exam.
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| C. Affective and value goals C1. Learn how to deal safely with electricity. C2. Understanding the importance of electricity in our life and in the scientific research.C3. Learn how to determine the electrical parameters. |
| Teaching and Learning Methods |
| -Explaining the lectures- Solving sample problems-Receiving questions from students- Asking students to solve the problems to evaluate their understanding. |
| Assessment methods |
|  Attending Lectures where the materials are written and explained on white board. Using google meets for extra explanations when needed.Let the students participate in the lecture through solving the problems and asking questions. |

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| D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)D1. Learning the importance of electricity.D2. Learning how to handle the problems that are related to electricity.D3. Learning how to apply the electricity laws in solving the physics problems.D4.  |

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| 10. Course Structure |
| Week | Hours | ILOs | Unit/Module or Topic Title | Teaching Method | Assessment Method |
| 1 | 3 |  | Unit one/ Coulomb’s Law and electric fields | attendance | Daily exam and solving problems on white board |
| 2 | 3 |  | Solving problems on unit1 | Attendance | Daily exam and solving problems on white board |
| 3 | 3 |  | Unit Two/ Potential and capacitance | Attendance | Daily exam and solving problems on white board |
| 4 | 3 |  | Solving problems on unit2 | attendance | Daily exam and solving problems on white board |
| 5 | 3 |  | Unit Three /Current, resistance and Ohm’s law | Attendance | Daily exam and solving problems on white board |
| 6 | 3 |  | Solving problems on unit3 | Attendance | Daily exam and solving problems on white board |
| 7 | 3 |  | Unit Four/ Electrical Power | attendance | Daily exam and solving problems on white board |
| 8 | 3 |  | Solving problems on unit4 | Attendance | Daily exam and solving problems on white board |
| 9 | 3 |  | Unit 5/ Equivalent resistance | Attendance | Daily exam and solving problems on white board |
| 10 | 3 |  | Solving problems on unit5 | attendance | Daily exam and solving problems on white board |
| 11 | 3 |  | Unit 6/ Kirchhoff’s law | Attendance | Daily exam and solving problems on white board |
| 12 | 3 |  | Solving problems on unit6 | Attendance | Daily exam and solving problems on white board |
| 13 | 3 |  | Unit 7/ Forces on magnetic fields | attendance | Daily exam and solving problems on white board |
| 14 | 3 |  | Solving problems on unit7 | Attendance | Daily exam and solving problems on white board |
| 15 | 3 |  | Mid-term exam | Attendance |  |

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| 11. Infrastructure |
| 1. Books Required reading: | 1. Schaums Outline of College Physics by Frederick J. Bueche, Eugene Hecht, Frederick Bueche 1997. |
| 2. Main references (sources) | Electricity and magnetism by Kyle, Kirkland 2007. |
| A- Recommended books and references (scientific journals, reports…). | 3. Fundamentals of Physics, Halliday and Resnick, 2016 |
| B-Electronic references, Internet sites… |  |
| 12. The development of the curriculum plan |
| -Taking the students in scientific trips to show them the effect of electricity in the daily life and scientific and industrial applications.-Asking the students to write reports in different subjects that are related to electricity and magnetism and discuss them with the students. |
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