

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course provides students with introduction in the dc circuits, Ohm's law, series and parallel connection, equivalent resistors, star to delta transformation and vice versa, current divider and voltage divider rule, Khirchhoff law for current and voltage, source transformation, Thevenin and Norton equivalent circuits. In this way, the student will be able to analyze DC circuits and to find their voltages and currents.

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| 1. Teaching Institution | | | | Baghdad University / Al Khwarizmi College of engineering | | |
| 2. University Department/Centre | | | | Mechatronics Eng. Dept. | | |
| 3. Course title/code | | | | Electric Circuits I MCT114 | | |
| 4. Programme(s) to which it contributes | | | | College Requirements | | |
| 5. Modes of Attendance offered | | | | Full time | | |
| | | | | | | |
| 11. Course Structure | | | | | | |
| Week | Hours | ILOs | Unit/Module or Topic Title | Teach ing Method | Assessment Method | |
| Course1 | | | | | | |
| 1 | 2 | | Introduction to electric circuits. | | | |
| 2 | 2 | | Resistivity and conductivity, Ohm's law. | | | |
| 3, 4 | 4 | | Series and parallel resistive networks, current divider rule, voltage divider rule. | | | |
| 5, 6, 7 | 6 | | Star to delta and delta to star conversion. Types of sources, Khirchhoff's law | | | |
| 8, 9 | 4 | | Loop analysis. | | | |
| 10, 11 | 4 | | Nodal analysis | | | |

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|--|---|--|------------------------------|----------------------------|--|
| 12, 13 | 4 | | Source transformation | | |
| 14, 15 | 4 | | Thevinin and Norton analysis | | |
| 6. Semester/Year | | | | | |
| 7. Number of hours tuition (total) | | | | 4 hours (2 Theor. + 2 Lab) | |
| 8. Date of production/revision of this specification | | | | 2018 | |
| 9. Aims of the Course | | | | | |
| <ul style="list-style-type: none">• Introduce the Dc circuits to the student and the interconnection between the course and applications. | | | | | |
| <ul style="list-style-type: none">• Show the importance of this course | | | | | |
| <ul style="list-style-type: none">• Show the essentials of the Dc circuit analysis. | | | | | |
| <ul style="list-style-type: none">• Introduce the course benefits and its relation to the other subjects that the student will take in the upcoming years. | | | | | |

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| 10. Learning Outcomes, Teaching , Learning and Assessment Method |
| A- Knowledge and Understanding 1. 2. 3. 5. |
| B. Subject-specific skills 1. 2. 3. 4. |
| Teaching and Learning Methods |
| <ul style="list-style-type: none"> • Lectures • Tutorials and exercises. • Self learning • Individual student learning. • Text books and problems solutions. • Several quizzes. |
| Assessment methods |

- Closed book examinations.
- Homework.
- Lab Reports.
- Solution of examples with students .

C. Thinking Skills

- 1.
- 2.
- 3.
- 4.

Teaching and Learning Methods

- Classroom lectures, assignments, examples, tutorials, and home works.
- Lab experiments and discussions.
- Home works.

Assessment methods

- Theoretical and experimental Quizzes.
- Written examination and lab reports.
- Problem discussion and solution.

D. General and Transferable Skills (other skills relevant to employability and personal development)

- 1.
- 2.
- 3.
- 4.

Teaching and Learning Methods

- Library and other information resources.
- Individual and group problem solving activity.

Assessment methods

- Examinations answers, class assignment, and homework.
- Oral presentations.

| 13. Admissions | |
|----------------------------|--|
| Pre-requisites | |
| Minimum number of students | |
| Maximum number of students | |

| 12. Infrastructure | |
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| Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER | <ul style="list-style-type: none"> • Electric circuits (J. Nillson) • Electric circuits fundamentals (Alexander) • Electric circuits (Schaum's series) |
| Special requirements (include for example workshops, periodicals, IT software, websites) | |
| Community-based facilities (include for example, guest Lectures , internship , field studies) | |