



COURSE OUTLINE

ELR721

Prepared: shager Approved: c meunier

| Course Code: Title | ELR721: ELECTRONICS - LEVEL 2 | | | | | | |
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| Program Number: Name | 6521: CONST & MTCE ELE INT | | | | | | |
| Department: | ELEC. APPRENTICES | | | | | | |
| Semester/Term: | 18S | | | | | | |
| Course Description: | This course introduces the student to rectifier based power supplies, thyristors and field effect transistors. Operational amplifiers and their applications are also covered. Theory is supported by appropriate labs. | | | | | | |
| Total Credits: | 4 | | | | | | |
| Hours/Week: | 4 | | | | | | |
| Total Hours: | 3 | | | | | | |
| Course Evaluation: | Passing Grade: 50%, D | | | | | | |
| Other Course Evaluation & Assessment Requirements: | <p>Grade Definition Grade Point Equivalent A+ 90 - 100% 4.00 A 80 - 89% B 70 - 79% 3.00 C 60 - 69% 2.00 D 50 - 59% 1.00 F (Fail) 49% and below 0.00</p> <p>CR (Credit) Credit for diploma requirements has been awarded. S Satisfactory achievement in field /clinical placement or non-graded subject area. U Unsatisfactory achievement in field/clinical placement or non-graded subject area. X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. NR Grade not reported to Registrar's office. W Student has withdrawn from the course without academic penalty.</p> | | | | | | |
| Evaluation Process and Grading System: | <table><tr><th>Evaluation Type</th><th>Evaluation Weight</th></tr><tr><td>Lab reports</td><td>50%</td></tr><tr><td>Theory tests</td><td>50%</td></tr></table> | Evaluation Type | Evaluation Weight | Lab reports | 50% | Theory tests | 50% |
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| Theory tests | 50% | | | | | | |

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| Books and Required Resources: | Same book as ELR621 |
| Course Outcomes and Learning Objectives: | <p>Course Outcome 1.</p> <p>A course in the applications of diodes in rectifier circuits and power supplies. Other topics include Zener diodes, Field Effect Transistors, op-amps and thyristors including the SCR, DIAC and TRIAC</p> <p>Learning Objectives 1.</p> <p>Use the oscilloscope to test circuits.</p> <p>Explain the importance of isolation as applied to test equipment.</p> <p>Describe and demonstrate full-wave rectification.</p> <p>Connect capacitors and inductors to filter a power supply output.</p> <p>Explain and demonstrate the use of a Zener diode as a regulator.</p> <p>Describe and demonstrate the operation of a SCR.</p> <p>Describe and demonstrate the operation of a DIAC.</p> <p>Describe and demonstrate the operation of TRIAC.</p> <p>Describe and demonstrate how a DIAC and RC network can be used to phase shift a TRIAC</p> <p>Describe the operation and applications of a Pulse Transformer and the theory of pulse triggering thyristors</p> <p>Explain the operation of an Operational Amplifier (Op. Amp)</p> |
| Date: | Monday, April 23, 2018 |
| | Please refer to the course outline addendum on the Learning Management System for further information. |