

(Syllabus)

| [1] (Basic Information) | | | | | |
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| <u>(Course Information)</u> | | | | | |
| / | 2024 / 1 | (Campus) | | (Seoul Campus) | |
| (Year/Semester) | | | | | |
| (Course No.) | 56398 | (Class No.) | 01 | (Credit) | 3 |
| (Course Title) | (ELEMENTARY SEMICONDUCTOR PHYSICS) | / | | | |
| | | (Time/Room) | | | |
| (Course Classification) | (elective major course) | (Lecture Type) | | (Lone-teaching course) | |
| (Course Type) | (Theoretical course) | (Medium of Instruction) | | | |
| (Accreditation) | | (Accreditation of Engineering Education) | | | |
| (College) | ICT (College of ICT Engineering) | () | | ICT | |
| | | (Department) | | | |
| e - class (Usage of e - class) | Yes | | | | |
| <u>(Instructor Information)</u> | | | | | |
| (Name) | (Song, Sang - Hun) | (Department) | | (School of Electrical and Electronics Engineering) | |
| (Office Phone No.) | 02 - 820 - 5343 | (Contact No.) | | 010 - 5225 - 8011 | |
| E - mail (E - mail) | shsong@cau.ac.kr | (Department Phone No.) | | 02 - 881 - 7301 | |
| 가 (Office Hour) | 13 ~ 15 | (Office Location) | | 207 - 428 | |
| (Course Web - site) | http://edsl.cau.ac.kr | | | | |

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|--|----------------------------|----------------------------------|
| [2] / (Learning Objectives/Outcomes) | | |
| <u>(Course Description)</u> | | |
| 가 | | |
| <u>(Prerequisites and Co-requisites)</u> | | |
| | | |
| <u>(Learning Objectives)</u> | | |
| / | | |
| <u>(Learning Outcomes)</u> | | |
| 가 , , | | |
| [3] (Course Methods) | | |
| <u>(Teaching and Learning Methods)</u> | | |
| (Teaching and Learning Methods) | 가 (Additional Description) | |
| - (Lecture) | Problem Based Learning | |
| <u>(Assignments)</u> | | |
| (Assignments) | (No.) | (, ,)(Assignments Description) |
| (Practice) | 5 | |
| <u>(Textbooks, Reading, and other Materials)</u> | | |

| [4] 가 (Student Assessment) | | |
|----------------------------|--------------------------|----------------------------|
| 가 (Assessment Item) | 가 (%) (Assessment Ratio) | 가 (Additional Description) |
| / (Participation/Attitude) | 10 | 가 . |
| (Assignment) | 20 | 5 가 . |
| (Mid-term Exam) | 30 | |

| 가 (Assessment Item) | | 가 (%) (Assessment Ratio) | 가 (Additional Description) | |
|--|--------------|------------------------------------|----------------------------|--|
| (Final Exam) | | 40 | | |
| [5] (Course Schedule) | | | | |
| (Week) | (Instructor) | (Topic & Content) | (Student Assignment) | 가 (Additional Description & Instructor Assignment) |
| 1 | | Voltage, Current | | A B (,)? |
| 2 | | Resistor, Inductor, Capacitor | | : , , |
| 3 | | Equivalent Circuits (가) | | , ? Transistor 가 |
| 4 | | Functions () | | Graphs, Exponentials(), Trigonometrics() Functions |
| 5 | | Differentiation () | | Definition and graphical interpretation of differentiation, Examples and Problems, Techniques of Differentiation |
| 6 | | Integration () | | Reverse operation of Differentiation Examples and Problems, Techniques of Integration |
| 7 | | Taylor Series Expansion | | Approximation technique to a function, Linearization() |
| 8 | | () | | |
| 9 | | Differential Equations () | | 1st order Differential Equation Examples and Problems |
| 10 | | Coordinate Systems () | | 2 3 , Cartesian(), Cylindrical(), and Spherical() Coordinates |
| 11 | | Vectors, | | Scalar product, Vector product |
| 12 | | Vector Calculus | | Gradient, Divergence, Curl, ? |
| 13 | | Gauss 'Law, Poisson 's Equation, | | Gauss 'Law, Poisson : |
| 14 | | Current Conduction Mechanisms | | Drift or Diffusion? |
| 15 | | () | | |
| 16 | | Maxwell 's Equations if necessary. | | |
| [6] (Guide to Learning) | | | | |
| Topics can be added or removed upon request. | | | | |

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| (Previous Exam Samples) | |
| | |
| < 가 | >(<Download Additional Sample>) |
| 가 . | |
| 71 【 】 6 47 【 】 (In pursuant to the Article 71 “Discipline ” of the Chung-Ang University Regulations, and Article 47 “Punishment for Cheating during Examination ” under Chapter 6 of the Academic Affairs Management Rules, any student caught engaging in academic misconduct during an exam will be subject to disciplinary action.) | |
| 1. : , , , 가 2. : , , 가 3. / : 가 , 가 4. : 02-820-6577~9(), 031-670-4816() (cauable) | |
| In this class, students with disabilities are eligible for reasonable accommodations depending on the type and severity of disability. If you wish to receive accommodations listed below, please contact the Support Center for Students with Disabilities. 1. Visual Impairment: Braille, large print, electronic class materials, volunteer note-taker, adjustments in assessment practices, etc. 2. Hearing Impairment: Volunteer note-taker, stenographer, adjustments in assessment practices, etc. 3. Physical Disabilities/Brain Lesions: Classrooms with wheelchair access, volunteer note-taker, adjustments in assessment practices, etc. 4. Accommodations for students with other psychiatric disabilities or health impairments can be arranged through the Support Center for Students with Disabilities after consultation. Inquiry: 02-820-6577~9 (Seoul Campus), 031-670-4816 (Anseong Campus) - KakaoTalk Plus Friend ID: @cauable | |