

City University of Hong Kong

Information on a Course
offered by School of Creative Media
with effect from Semester A in 2007 / 2008

This form is for completion by the Course Co-ordinator. The information provided on this form will be deemed to be the official record of the details of the course. It has multipurpose use: for the University's database, and for publishing in various University publications including the Blackboard, and documents for students and others as necessary.

Please refer to the Explanatory Notes attached to this Form on the various items of information required.

Part I

Course Title: Creative Electronics Workshop

Course Code: SM2258

Course Duration: One semester (13 weeks)

No. of Credit Units: 3

Level: A2/B3

Medium of Instruction: English

Prerequisites: (*Course Code and Title*) N.A.

Precursors: (*Course Code and Title*) N.A.

Equivalent Courses: (*Course Code and Title*) N.A.

Exclusive Courses: (*Course Code and Title*) N.A.

Part II

1. Course Aims:

The course aims to provide introductory understanding of electronic devices and circuits for non-engineering students who may employ the design and integration of electronics into their subsequent creative projects in the School. Through the understanding of simple theories and practical sessions, students are expected to describe different electronic components and to make simple physical circuit by modifying existing circuit diagrams for their own use. Functionality and

usability are not the primal concerns for students' output. They are encouraged to appropriate the existing usage in playful manner.

2. Course Intended Learning Outcomes (CILOs)

(state what the student is expected to be able to do at the end of the course according to a given standard of performance)

Upon successful completion of this course, students should be able to:

| No. | CILOs | Weighing (if applicable) |
|-----|--|--------------------------|
| 1. | Identify key electronic components and describe the circuits. | 20% |
| 2. | Relate existing physical computing artworks with the basic electronics skills learnt. | 20% |
| 3. | Apply the basic electronics skills to create an electronic artwork or product. | 40% |
| 4. | List the achievements and difficulties of the progress and reflect on students' own learning progress. | 20% |

3. Teaching and Learning Activities (TLAs)

(designed to facilitate students' achievement of the CILOs)

Indicative of likely activities and tasks students will undertake to learn in this course. Final details will be provided to students in their first week of attendance in this course.

| ILO No | TLAs | Hours/weeks (if applicable) |
|--------|--|-----------------------------|
| CILO 1 | Short lectures and practical lab sessions on electronic components and circuits. | |
| CILO 2 | Demonstration and presentation of relevant media artworks. | |
| CILO 3 | Group tutorial and walkthrough of the proposed final projects. | |
| CILO 4 | Review and document the project development process. | |

4. Assessment Tasks/Activities

(designed to assess how well the students achieve the CILOs)

Indicative of likely activities and tasks students will undertake to learn in this course. Final details will be provided to students in their first week of attendance in this course.

| ILO No | Type of assessment tasks/activities | Weighting (if applicable) | Remarks |
|--------|--|---------------------------|---------|
| CILO 1 | In-class practical exercises on various electronic components and circuitry. | 20% | |

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|--------|---|-----|--|
| CILO 2 | Presentation on the interactive artworks or devices related to electronic production details. | 20% | |
| CILO 3 | Design, implementation and presentation of a creative project with basic electronic components. | 40% | |
| CILO 4 | Maintenance and presentation of a log book for the learning. | 20% | |

5. Grading of Student Achievement: Refer to Grading of Courses in the Academic Regulations and to the Explanatory Notes.

Grading and assessment will be made according to students' individual assignments, in-class exercises and group projects.

Grading pattern: Standard (AA-...F)

Part III

Keyword Syllabus:

- AC/DC electricity
- Open/closed circuit
- Power supply, battery, AC adapter
- Resistance and resistor
- Capacitance and capacitor
- RC circuit
- Voltage, current, power
- Ohm's law
- Multi-meter, electronic tools
- Diode, LED
- Transistor
- Sensors and actuators
- Physical computing
- Robotic arts
- Non-screen based media arts
- Integrated circuit
- Timer

Recommended Reading:

Books

1. Getting started in electronics, Forrest M. Mims III, Master Publishing Inc. 2003
2. Practical electronics for inventors, Paul Scherz, McGraw Hill, 2nd edition, 2006
3. Physical computing: sensing & controlling with physical world with computers, Tom Igoe, Course Technology PTR, 2004

4. Making things talk: practical methods for connecting physical objects, Tom Igoe, Make Books, 2007

Online Resources:

1. Physical computing at ITP <http://itp.nyu.edu/physcomp/Main/HomePage>
2. MAKE magazine <http://www.makezine.com/>

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