

# Course of Professional Development Wearable Technology



Wearable SmartTextiles: From Technology to Concept. A hands on analysis of electronics in innovative textiles and prototype development.

**Course available in English  
9,10,11 December 2011**

**Basic Level 9-10 December**

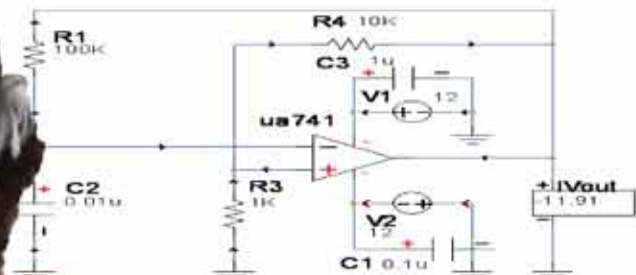
**Advanced Level 11 December**

*Italian course available upon demand.*

### In this course...

This course is designed to give you the framework for creating fashion garments and accessories that have electronics integrated at the textile level.

At the end of the course students will be able to design and prototype wearable technology products.



What can electronic technology offer to the design field?

What are the most cutting edge uses of interactive applications?

The workshop *WearableSmartTextiles: Technology to Concept: a hands on analysis of electronic technology in innovative textiles and prototype development* seeks to address these questions. The course offers a theoretical and applied introduction to smart textiles; innovative fabrics currently being introduced in the different Interaction Design fields: from clothing to work dressing, to display and exhibits. Our objective is to explore in terms of design, themes that are based on technical knowledge but develop their potential in a visual and formal aesthetic.

### Basic Level

#### Theory and exercises: 8 hours

- Electronic components and their functions: LED, Capacitors, Resistors, Switches, Integrated Circuits, Batteries (each will be explained in terms of symbols, functions, connections, characteristics and containers).
- Exercises with a Lilypad Arduino kit sewn on a textile perfbord.
- Textile sensors and actuators: fabric switches, stretch sensors, and temperature sensors. Practice with a LED circuit and textile switch.
- Embedded Systems and simple programming the Arduino microcontroller: description, functions, interaction.

#### Prototype Creation Workshop: 8 hours

- Arduino Project: creation of a practical wearable technology project.

### Advanced Level

#### Theory and exercises: 4 hours

- Sensors and Actuators: Electroluminescent Fibers, Stroke Sensor, Electricity propagation in conductive fibers, high technology textile fibers, materials with shape memory, Piezoelectric sensors.
- Exercises with sensors/actuators and the "Arduino" microcontroller system; advanced course.

#### Prototype Creation Workshop: 4 hours

- Arduino Project: creation of a fashion accessory with wearable technology including troubleshooting

### DIDACTIC METHOD

The course offers a didactic module consisting of theoretical lessons and practical exercises (12 hours) + final workshop (12 hour). The first course should be taken before the second course, but courses can be taken individually.

### ATTENDANCE

In order to receive the final attendance certificate, students need to be present at least 2/3 of the hours.

### COURSE ACCESS REQUIREMENTS

The course is open to all students and those in possession of an Associates or Bachelors degree, professional or practical experiences in the field of smart textiles.

### FINAL CERTIFICATE

At the end of the course participants will be given a certificate of attendance.

### REGISTRATION FEE

Complete Course - € 380  
Basic Level - € 280  
Advanced Level- € 200

### INCLUDED

Didactic Materials, Workshop Kit (€80), Working Lunch, Visit to a museum or studio.

In the rare event that the minimum number of participants is not reached all fees will be refunded.

To register please go to:

[www.wearabletechnology.it](http://www.wearabletechnology.it)

### Applications and Registration

#### Deadlines:

Registration	10 October 2011
Payment	24 October 2011
Activation	10 November 2011
Course Starts	9 December 2011

### For more information:

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