

**Course title: Textile dye made by bacteria**

**Course instructors:**

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**Course code:**

**Course description:**

In this course students will gain an understanding of the importance of material choices in design. In this course we are going to teach the theory of Biodesign and material design as well as working on making our own yarn and fabric dyed with living bacteria *J. Lividum*. This course is open to students interested in the intersection of biology, design, and sustainability, particularly aiming to provide textile and fashion students with a profound engagement with materials. Throughout the week, participants will gain practical insights into utilizing living bacteria for fabric and yarn dyeing, offering an eco-friendly alternative to traditional, chemical-intensive methods.

*Relevance of Alternative Dyes:* The examination of alternative dyeing methods is imperative due to the environmental concerns associated with conventional practices. Current synthetic dyes utilized in the textile industry contribute significantly to water pollution and resource depletion. Industry reports underscore the unsustainability of traditional dyeing processes, emphasizing the need for eco-friendly alternatives. By scrutinizing the environmental impacts of conventional dyes and delving into innovative alternatives like bacterial dyeing, students will be equipped to make informed decisions in material selection, contributing to a more sustainable future.

**Application**

**Number of participant:** 5-10 students,

major: fashion and textile, BA2, BA3, MA1

**Schedule:**

*Course Structure:*

- **Lecture Sessions:**

**Introduction to Biodesign:** Comprehensive coverage of biodesign principles in the context of textile dyeing.

**Environmental Impact of Traditional Dyes:** Examination of data and case studies highlighting the unsustainable nature of current dyeing practices.

**Biological Processes in Textile Dyeing:** In-depth exploration of the scientific principles behind utilizing bacteria for sustainable dyeing.

- **Hands-on Experimentation:**

**Crafting with Living Systems:** Practical application of bacterial dyeing techniques on textiles.

**Practical Insights:** Acquiring a nuanced understanding of bacterial dyeing processes, fostering a direct connection with sustainable material practices.

- **Product Concept Development:**

**Translating Knowledge into Design:** Guided by hands-on experience, students will develop a product concept integrating biodesign principles into a tangible prototype.

**Material Decision Empowerment:** Emphasis on making informed material decisions, exploring the potential of sustainable textile dyeing in creating innovative and eco-friendly fashion and textile products.

This course aims to equip students with both theoretical knowledge and practical skills, fostering a holistic understanding of biodesign's applications in sustainable textile dyeing. Participants will emerge with the capacity to champion positive change within the fashion and textile industry.

**Outcome:**

**Course recommendation**

It is for you, if you are interested in the importance of material choices in design, it is not for you, if you are not interested in the intersection of biology, design, and sustainability.