Project Brief STEAM for Creative Innovation:
Integrating Wearable Technology in Fashion Design

Project Title:
STEAM for Creative Innovation: Integrating Wearable Technology in Fashion Design

1. Project Overview
This interdisciplinary project merges principles of Science, Technology, Engineering, Arts, and Mathematics (STEAM) through the medium of fashion design. Students will engage in the research, design, and fabrication of functional wearable technology, developing both technical proficiency and creative expression.

2. Core Technical Requirement
All student designs must meaningfully integrate one of the following smart textile technologies:

- Integrated Circuit Textiles: Incorporating functional electronic circuits directly into fabric structures.
- POF (Polymer Optical Fiber) Textiles: Implementing POF textile to create illuminative wearable technology.

3. Learning Objectives
Upon completion, students will be able to:

- Apply the design thinking process to develop wearable technology concepts.
- Demonstrate technical competence in working with smart textile materials.
- Construct functional prototypes that successfully integrate illumination or basic circuitry.
- Present and critically evaluate design concepts using appropriate technical terminology.
- Collaborate effectively in team-based design and fabrication processes.

4. Project Components
The project comprises several key phases:

- Research & Ideation: Investigation of smart textile applications and contemporary fashion technology.
- Technical Skills Development: Hands-on workshops in circuit construction and fiber optic integration.
- Design Development: Creation of technical drawings and material specifications.
- Prototype Fabrication: Construction of the final wearable piece using appropriate construction techniques.
- Professional Critique: Presentation of work to industry specialists for feedback.
- Final Exhibition: Public presentation of completed works in a curated showcase.

5. Educational Value
This project provides practical experience in:

- Cross-disciplinary application of STEAM concepts
- Technical problem-solving and iterative design processes
- Professional presentation and communication skills
- Contemporary manufacturing techniques and material science

6. Prerequisites
No prior experience in fashion or engineering is required. The project is designed to accommodate beginners while providing advancement opportunities for students with relevant background knowledge. Essential requirements include willingness to engage with both technical and creative processes, and commitment to collaborative work.

The final prototype presentation will be presented to the international staff trainer in the final lesson