

Towards a Textile Innovation Centre at Al-Balqa Applied University (BAU)



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Outline

- 1. Introduction**
- 2. Textile & Fashion Design at BAU**
- 3. Progress on Textile Innovation Centre at (BAU)**
- 4. Conclusion and Outlook**

Introduction

- **Textiles: yarns that are knitted or woven to make fabrics.**
- **Textiles date back to stone age.**
- **Silk road in ancient world was a way to sell textiles.**

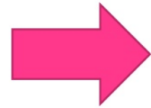
What was developed in ancient world

- **Ancient Egypt: flax**
- **Ancient India: cotton**
- **Ancient China: silk**

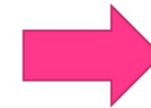
Introduction



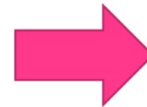
Flax



Cotton



Silk



Introduction

Jordan's Exports of Textiles and Clothing

2018	2017	2016	2013	2012	2011	2005	2000	1990	Year
1764	1588	1425	1211	1119	1064	998	141	32	

(Unit: M\$)

Textile & Fashion Design at BAU

Academic Programs of Fashion Design and Clothing Production at BAU

- Irbid University College, with a number of 107 students 2018/2019 .
- Al-Zarqa University College, with a number of 52 students (Diploma program) and 270 students (Bachelor program) in 2018/2019.
- Princess Alia University College, with a number of 14 students (Diploma program) and 220 students (Bachelor program) in 2018/2019.

Progress on Textile Innovation Centre at (BAU)

25/9/2019: Visit of Al-Balqa Applied University (BAU)

- Evaluation of the specific place where the textile innovation center will be located.
- Evaluation of the specific types of equipment need to be purchased for the new textile innovation center.
- Evaluation of the training needs for students and experts.

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Place where the textile innovation center will be located.

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Place where the textile innovation center will be located.

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Test Method	Test Name	اسم الفحص
ISO 1924-2	Tensile strength for fabric	قوة الشد
AATCC 20//2018	Kind of fibers	نوعية الألياف
ISO 6330/6A	Dimensional change by washing	تغير الأبعاد بالغسيل
James Heal instrument	Color fastness to Day light	ثبات اللون لضوء النهار
Visual test	Thread Fold	ثنية الخيط
JS 1777/2007	Width(including selvedges)	عرض القماش
JS 76/2000	Tensile strength for yarn	قوة الشد للخيط
JS 74/2009	Linear Density	نمرة الخيط
ISO 536/2019	Grammage per unit area	وزن المتر المربع
ISO 1833/2006	Kind of fibers & Percentage	نوعية الألياف والنسبة المئوية
ISO 105 C10-2/2006	Color fastness to washing	ثبات اللون للغسيل
ISO 105-E04/2013	Color fastness to perspiration	ثبات اللون للعرق
ISO 105-X12/2016	Color fastness to Rubbing	ثبات اللون للاحتكاك
ISO 3572/1976	Weaving structure	التركيب النسيجي
BS EN 1049-2/1994	No. of threads	عدد الخيوط

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Needed Equipments

Fiber Fineness Tester : Fibre composition

Fiber Fineness & Content Analysis System, used to determine the fineness of fiber and analyse the content and surface feature of animal fiber, vegetable fiber and mineral fiber, such as cotton, wool, man-made fiber, etc.



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Needed Equipments

Bain Marie bath with stirring

Bain Marie bath is used in the quantitative analysis of fibres and the removal of oil impurities and fats.



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Needed Equipments

Heating Mantles and Soxhlet Extraction

This test method covers a procedure for determining the extractable material on most fibers, yarns, and fabrics. The equipment will be used in quantitative fibre analysis.



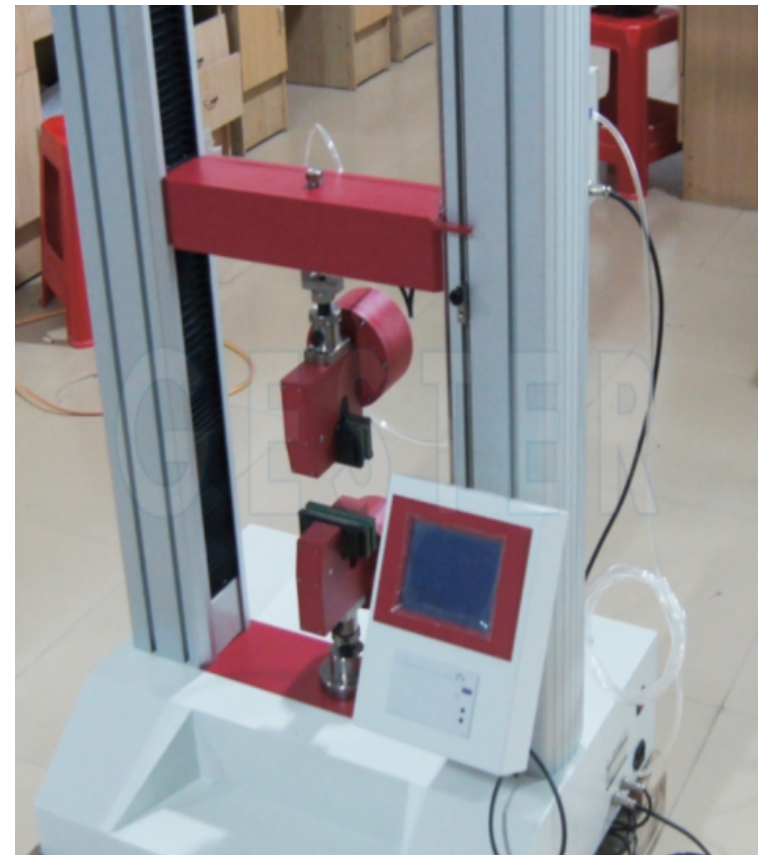
Progress on Textile Innovation Centre at (BAU)

Needed Equipments

Textile Tensile Testing Machine

Textile Tensile Testing Machine, to determine the physical and mechanical performance of tension, tearing, compression, bursting, rupture, flexibility, shear and peel and seam slippage.

Especially designed to test a wide range of yarn, fabric and leather, with a huge assortment of specimen grips and software available; it can also be used for strength test of rubber, plastic, metal, wire, paper, packaging, and other materials.



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Needed Equipments

Circular Sample Cutter

To cut sample in circle shapes.



Progress on Textile Innovation Centre at (BAU)

Needed Equipments

Scorch & Sublimation Tester

To test Scorch & Sublimation

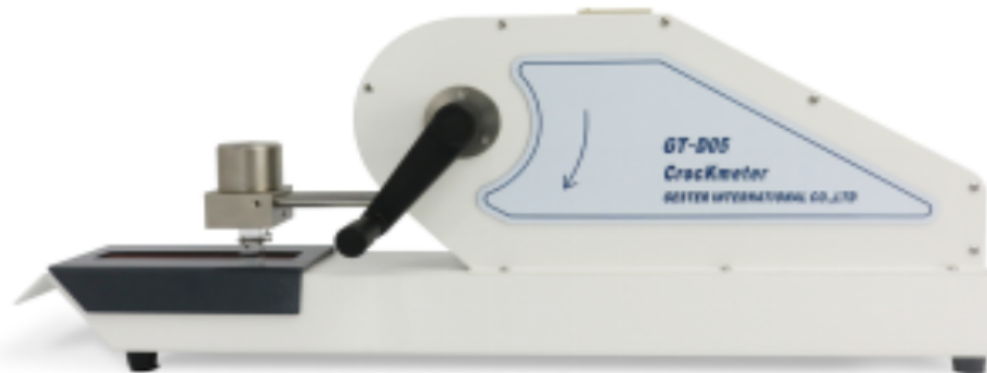


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Needed Equipments

Crockmeter/Rubbing Fastness Tester

Crockmeter, to determine the colour fastness of textiles to dry or wet rubbing.



Progress on Textile Innovation Centre at (BAU)

Needed Equipments

Perspiration Tester

Perspiration Tester is to determine colour fastness test to water, sea water, perspiration fastness in textiles and sublimation during storage.



Progress on Textile Innovation Centre at (BAU)

Needed Equipments

Dying Oven



Progress on Textile Innovation Centre at (BAU)

Needed Equipments

TU300C/D Color Light Box

Color Light Box / Color Matching Cabinet, used for color matching or assessment of all industries and where there is a need to maintain color consistency and quality. E.g. Automotive, Ceramics, Cosmetics, Foodstuffs, Footwear, Furniture, knitwear, Leather, Ophthalmic, Dyeing, Packaging, Printing, Inks and Textile.



Progress on Textile Innovation Centre at (BAU)

Needed Equipments

Washing Fastness Tester (Lauderometer)

Washing Fastness Tester (Lauderometer), to determine color fastness to washing or dry cleaning to ISO, BSI, AATCC and Marks & Spencers standards.



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Needed Equipments

Datacolor: Colour Management

Instrumental quality control of colour, and colour formulation and correction, is used in all fields of industry and digital imaging; from paints to plastics, packaging to ink manufacture, textiles to printing, automobiles to interior décor and design. The list goes on. Datacolor has an extensive range of bench and handheld spectrophotometers. Including Datacolor tools software and other quality control software that will revolutionise the way you work with colour.



Conclusion and Outlook

- **Equipments need to be purchased.**
- **Staff from BAU need basic courses on textiles** (fibers/yarns/textile structures (knits, woven, nonwoven; manufacturing principles (natural fibers spinning, polymer melt spinning, weaving, knitting, nonwoven manufacturing (web formation, web bonding and finishing); textile finishing processes (washing, bleaching, dyeing and coating); textile metrology; principal characteristics that can be investigated (physic-mechanical, physic-chemicals, optical or electrical properties), analysis of fibrous composition).

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