

# T.E.I. of Piraeus

# Department of Textiles



# ECTS

## Information Package



ERASMUS



T.E.I. of Piraeus

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### **A.1 What is the ECTS scheme?**

ECTS is the **European Community Course Credit Transfer System** that was developed in a pilot scheme within the Erasmus program in order to provide academic recognition for study abroad. It provides an instrument to create transparency, to build bridges between institutes and to widen the choices available to students. The system makes it easier for institutes to recognize the learning achievements of students through the use of commonly understood measurements – credits and grades – and it also provides a means to interpret national systems of higher education.

ECTS is based on three core elements:

- **information** (on study programs and student achievement)
- **mutual agreement** (between the partner institutes and the student)
- **use of ECTS credits** (to indicate student workload).

### **A.2 What are the ECTS credits?**

ECTS credits are a numerical value allocated to course units to describe the student workload required to complete them. They reflect the quantity of work each course unit requires in relation to the total quantity of work necessary to complete a full year of academic study at the institute with lectures, practical work and assessment among others.

In ECTS, 60 credits represent the workload of an academic year of study, 30 credits for a semester and 20 credits for a term.

### **A.3 ECTS students**

The students participating in ECTS scheme will receive the credits for all academic work that have successfully carried out at any of the participating institutes and they will be able to transfer these to another institute as long as there is a prior agreement between the institutes on the content of study programs.

All students of the participating departments who are willing to take part in the ECTS scheme may do so if their institute agrees and within the limit of available places.

For more information on ECTS, please consult the ECTS brochure that is available from:

#### **ECTS Department**

Erasmus Bureau,

Rue Montoyer 70,

B-1040 Brussels,

Tel: 32-2-233 01 11

Fax: 32-2-233 01 50

## **B. INFORMATION ON THE INSTITUTE**

### **B.1 Name and address of the Institute**

The Technological Educational Institute (T.E.I.) of Piraeus is located on a site of 197.000 m<sup>2</sup>, in the middle of an olive tree grove, not far from the port of Piraeus. All the premises of the institute are situated in the same area. The address of the institution is the following:

#### **T.E.I OF PIRAEUS**

Thivon 250 & P. Ralli

12244 Egaleo, Athens, Greece

Tel: +30-1-5381000

Fax: +30-1-5450962, 5450964

Web: [www/teipir.gr](http://www/teipir.gr)

### **B.2 The ECTS Institutional Coordinator**

The ECTS Institutional Coordinator in the TEI of Piraeus is:

#### **Professor Apostolos Kosidas**

Technological Educational Institute of Piraeus

Thivon 250 & P. Ralli

12244 Egaleo-Greece

Tel: +30-1-5613703, 5381129

Fax: +30-1-5450962, 5450964

E-mail: [akossid@teipir.gr](mailto:akossid@teipir.gr)

### **B.3 Academic Calendar**

The academic year is divided in two semesters each of them has a duration of 15 full time weeks.

#### **Winter semester:**

21<sup>th</sup> of September to 25<sup>th</sup> of January

The 1<sup>st</sup> examinations' period starts at the second half of January

The 2<sup>nd</sup> examinations' period starts at the first half of February

#### **Spring semester:**

20<sup>th</sup> of February to 5<sup>th</sup> of June

The 1<sup>st</sup> examinations' period start at the second half of June

The 2<sup>nd</sup> examinations' period starts at the first half of September

- Registration dates: September for winter semester  
February for spring semester
- Christmas break: 23<sup>rd</sup> of December to 3<sup>rd</sup> January
- Easter break: Good Wednesday to Wednesday after Easter
- Summer holidays: July to end of August

## **B.4 General Description of the Institute**

### **B.4.1 History**

The Technological Educational Institute (T.E.I.) of Piraeus is one of twelve independent and self-governed T.E.I institutes that constitute the national system of higher technological education in Greece. It offers more than 50 different degree-awarding-programs across the entire spectrum of learning, from arts and social sciences to applied sciences and engineering.

The purpose and the nature of these programs is comparable to that of the German Fachhochschulen, the French Institutes Universitaires de Technologie and of the Polytechnics of Great Britain, in some aspects. In contrast to some of these schools, the T.E.I issue their own degrees.

The T.E.I of Piraeus was founded in its present status of higher education by the Greek law coded L.1404/83 as all of the system's similar Institutes that have their origin at the early KATEE and KATE schools. These were Centers of Higher Technological Education with the latter being more vocational, and of two different durations regarding their programs.

Today T.E.I's are part of the country's higher education system with specific and distinctive educational mission when compared to Universities. The T.E.I. provide high school graduates with scientific and academic training of immediate application to the employment needs. However, many T.E.I graduates decide to continue for post-graduate studies in Universities after obtaining their T.E.I degree. Responding to such interest on behalf of its graduates, the T.E.I of Piraeus, and a few other T.E.I.s, have started to initiate post-graduate programs of their own which are expected to be officially incorporated in their basic program once the necessary legislature is completed. The study at T.E.I, as all levels of education in Greece, is provided free of tuition fees and education material is also free. The process is supervised by the Ministry of Education.

T.E.I.s have a great importance for the Greek educational system and many national and international authorities and organizations have come to recognize the importance of their role and respond positively to its claims on educational and industrial research resources and allotments.

The current total enrollment of the T.E.I network nationwide is close to a 100.000 students and each year around 20.000 new students enter the system through the **national examinations**.

**Accreditation:** Within the European Community, the T.E.I belong to what Directive 89/48 of the European Council defining them as tertiary level of education together with the Universities. The T.E.I. degrees along with those of the Greek Universities, are the only tertiary education degrees offered by schools operating within Greece that are recognized by Greek and EC authorities. T.E.I graduates are accepted for post-graduate studies in accredited Universities worldwide.

**International activities:** The T.E.I of Piraeus is a member of **TEXT** (Trans European Exchange and Transfer Consortium), **EURASHE**, **RE-EN** (Reseau Europeen de Formation pour le Tiers Secteur/European Third sector Training Network), **INTERNATIONAL TEXTILE ACADEMIA**, **EAIE** (European Association for International Education).

It participates actively in European inter-University and University-Industry exchange and training programs such as **SOCRATES**, **LEONARDO**, **TEMPUS/PHARE**, **TEMPUS/TACIS**, **JEAN MONNET E.P.E.A.E.K** etc. Through these E.C. sponsored programs, students and academics have the opportunity to exchange educational and cultural experiences. The office of International Relations and European Programs of T.E.I of Piraeus is the coordinator of this activity on a full-time basis and an academic administrates it.

**Enrollment:** Approximately 10.000 students are currently enrolled at the T.E.I of Piraeus attending classes, or doing their practical training.

**Staff:** The Institute's tenure faculty is around 250 supplemented by an equal or even greater number, occasionally, adjunct teaching staff while the administrative and other supporting staff totals approximately 130.

**Organization:** The Institute has two faculties:

1. Faculty of Applied Technology with seven departments
  - Automation
  - Civil Engineering
  - Computers Technology
  - Electrical Engineering
  - Electronics
  - Mechanical Engineering
  - Textiles
2. Faculty of Management and Economics with two Departments
  - Accounting
  - Business Management

These faculties are supported by two general Departments namely the Mathematics and the Science & Materials Technology.

**Administration:** The highest administrative body of the school is the T.E.I General Assembly and the T.E.I Council. Resolutions that affect specific parts of the School such as individual Faculties and Departments, or specific major subjects within departments, are initiated by similar bodies, organized at the level of each subdivision, before they are –if necessary- submitted to the higher level.

The departments enjoy significant degree of freedom regarding their own affairs whereas they are sufficiently represented at the higher levels of decision - making. The highest academic as well as administrative official of the Institute is the President assisted by a Vice-President. There is a Director for each faculty and a Head in each Department, as well as a Supervisor for each major subject within departments. The academic officials at all levels are elected by electoral bodies that include all faculty members and appropriate representation of all other supporting functions at the School as well as of the Students Body.

**Supporting services:** The following services provide support to the overall operation of the Institute.

- Records and Personnel Office
- Finance and Accounting Department
- Library
- Secretarial Services
- EDP Services
- Medical Care Station
- Career Advisory Service
- European and International Relations Office
- Publications and Public Relations Office
- Maintenance Services

**Research activities:** The T.E.I of Piraeus competes for the European Community research funds as well as from the Greek government and various business organizations. For the last two years the Institute secured over 1.2 million euros for the research and proposals.

#### **B.4.2 Admission and registration procedure**

Students, who have succeeded to the general examinations after graduating the High School, must formally register at the Department of their choice and declare the courses they are going to attend. Their registration usually takes place during the first week of the winter or spring semester.

#### **B.4.3 Academic requirements**

Students entered in Higher Education must hold a secondary school certificate. They are sitting every June in general examinations, which are conducted by the Central Committee of the National Entry Examinations System, in order to enter to a

Department of their preference in an AEI (Universities) or T.E.I (Technological Educational Institutes).

#### **B.4.4 Linguistic requirements**

The language that the courses are taught is **Greek** and its knowledge is an obligatory prerequisite. During the first five semesters there is a course of foreign language where the students may choose among English, French, German, Italian and Russian languages.

ECTS students do not need to have a Greek language certificate, but they must have a command of the Greek language.

#### **B.4.5 Specific requirements for mobile (ECTS) students**

ECTS students must have successfully completed the 1<sup>st</sup> year of their studies. The students should send their application forms to the ECTS Coordinator and be in contact with him for making all necessary arrangements.

When the ECTS students are accepted by the Department of the Host Institute, they have to make their registration at the Department Secretary's office. They also have to present their passport, a transcript of their marking records and four passport size photographs.

#### **B.4.6 Accommodation and cost of living**

Accommodation for students is provided in The Students Hall of Residence in a hotel at the center of Athens. All the applications are examined with respect to student's family income. Other ways of accommodation is as a lodger or in a hotel.

An ECTS student has the possibility of using the T.E.I restaurant on campus free of charge or in a cooperative restaurant at the center of Athens.

The total cost of living and studying in Piraeus for a student is about 500 euros per month. For an ECTS student this cost of living is reduced to 280 euros per month, when he uses T.E.I accommodation and restaurant.

#### **B.4.7 Restaurant facilities**

The Institute has a well-equipped restaurant with large dinning room that serves breakfast, lunch and dinner to students as well as to faculty at low prices. Many of low-income students receive free meal coupons from the state that can be used at the restaurant. In addition to the main restaurant there is a cafeteria operating at all hours with sandwiches, snacks and beverages.

#### **B.4.8 Library facilities**

The students of the Institute can benefit from a lending library that is now well - developed and a comfortable reading room on the ground floor of the building complex looking at the olive grove. Nevertheless, all students receive basic textbooks free of charge. The library is equipped with a local computer network with access to



the Internet. There are also one large amphitheatre of 500 seats and two smaller ones for special lectures and occasions.

#### **B.4.9 Health Insurance**

A physician and a nurse are on duty every day at the school's medical center for emergency situations. All students receive free medical and hospital insurance coverage, under the National Health Service System, as long as they are not covered by other individual or family plans of their own.

There is a general public hospital very near the Institute, about 2 Km and 5 min by car:

'General hospital of Nikaia', Tel: 4902047

#### **B.4.10 Sport facilities**

There are outdoor facilities for basketball, volleyball and tennis. The students can make use of these facilities at their spare time free of charge.

### **B.5 Useful information**

The Institute is located at about 5 Km from the center of Piraeus and 8 Km from the center of Athens.

- The airport is about 15 Km from the campus. Someone can reach the Institute either by bus or taxi. The buses from the airport have a terminal either in downtown Athens or Piraeus center. There is a link to the Institute from either terminal.
- There is a direct connection of the Institute with downtown Athens.
- There is regular bus service with Athens and Piraeus.

#### **B.5.1 Banks in Piraeus**

There is an ATM for cash redraws inside the Institute of the 'AGRICULTURAL BANK OF GREECE'. This ATM accepts major credit cards for withdrawals in the local currency.

Other banks nearby campus or in Piraeus are the following:

- National Bank of Greece  
Thivon 304, Egaleo  
Tel: 5625251
- National Bank of Greece  
Ethnikis Antistaseos, Piraeus  
Tel: 4174101
- Commercial Bank of Greece  
Iera Odos 230, Egaleo  
Tel: 5985440

- Bank of Piræus Tel:4122648  
Navarinou 12, Piræus
- Credit Bank Tel:4121721  
Ethnikis Antistaseos, Piræus
- Agricultural Bank of Greece Tel: 5313421  
Dimarxiou 22, Egaleo

### **B.5.2 Theatres and cinemas in Piræus**

Theatres near T.E.I. of Piræus:

- Municipal Theatre of Piræus Tel: 4178351  
Agiou Konstantinou 4
- Theatre under the bridge Tel: 4816200  
N. Faliron underground station

Cinemas near T.E.I. of Piræus:

- Attikon Tel: 4175897  
Dimotikou Theatrou square
- Sineak Tel: 4225653  
Dimarxiou square
- High life Tel: 4120524  
Korai square
- Zea Tel: 4521388  
X. Trikoupi 39

### **B.5.3 Emergency phones**

- Police Tel: 100
- Traffic Police Tel: 4113832
- Fire brigade Tel: 199
- Ambulance First Aid Tel: 166
- Red Cross First Aid Tel: 150
- General Public Hospital of Piræus Tel:4915061
- Tzanio General Hospital of Piræus Tel: 4519411

Other useful telephones:

- International airport Tel: 9699111
- Olympic Airways Tel: 9369111
- Railway services Tel: 3624402

## C. INFORMATION ON THE DEPARTMENT OF TEXTILES

### C.1 General description of the Department of Textiles

#### C.1.1 Name and address

The Department of Textiles is located on second (B) and third (C) building of the Institute. The A building is mainly administration and related services inclusive of restaurant facilities, library and lecture theatres. A sketch of the Institute is following where the two large buildings that are under construction on both sides of the main complex can be seen.



Position of the Textile Department facilities on the Institute's site

Address: Department of Textiles  
T.E.I OF PIRAEUS  
Thivon 250 & P. Ralli  
12244 Egaleo, Athens, Greece  
Tel: +30-1-5381000, Fax: +30-1-5450962, 5450964  
Web: [www/teipir.gr](http://www/teipir.gr)

### **C.1.2 Departmental ECTS Coordinator**

The ECTS Departmental Coordinator is:

Associate Professor Dr. Agnes Ginopoulou

Department of Textiles

Technological Educational Institute of Piraeus

Thivon 250 & P.Ralli

12244 Egaleo-Greece

Tel: +30-1-5381247, Fax: +30-1-5450962

E-mail: [ginop@teipir.gr](mailto:ginop@teipir.gr)

### **C.1.3 Structure and general targets of the department of textiles**

The Department of Textiles was established on 1984 aiming to cover the demand for higher educated textile technologists of the Greek textile industry that is of important scale in the country. The studies in the department last for 7 semesters where the students attend theoretical and laboratory (practical) classes. Their studies are enriched by visits at production sites and accomplishment of mini research projects.

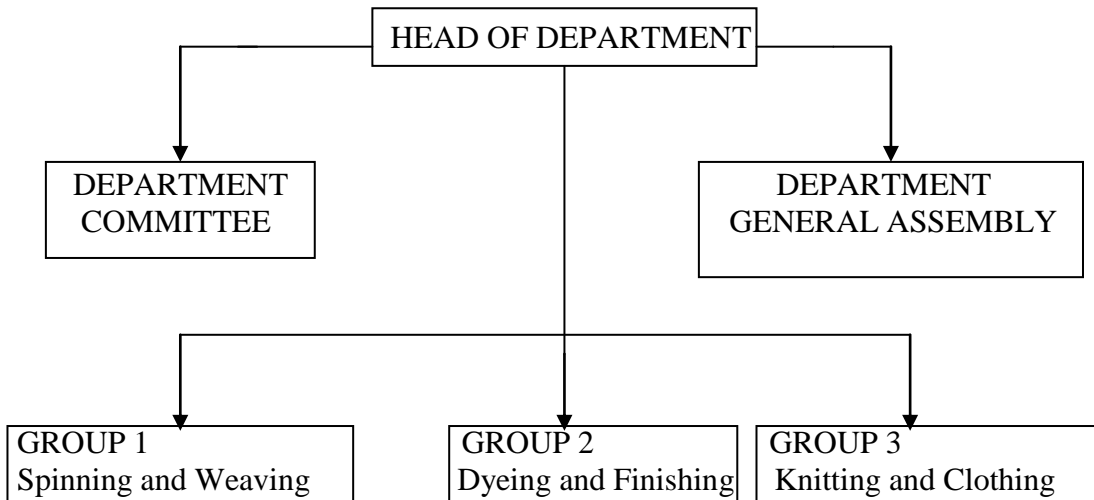
To complete their studies, the students have to follow a six month of training work in a textile related industry, where they get sufficient practical experience on the field. At this stage they have the opportunity to synthesize the theoretical background, they have acquired from their studies, to real time problems they meet in the industry.

Additionally, they also have to complete a research project that should lead to the production of a degree thesis, at the end of their studies. In this way the students are gaining experience of research and acquisition of several synthesis and analysis skills.

The main areas of research and teaching at the Department of Textiles are:

- Development and production of textile materials at laboratory scales and in the final form of textile garments
- Mechanical and chemical processes of textile materials
- Quality control
- Creation of technical guidelines concerning quality and production
- Textile management
- Design of textile garments
- Subjects relating to environment and safety at work

The structure of the Department of textiles is:



Despite the administrative separation into 3 groups the department has 4 specialisation directions that are:

- Spinning and Weaving
- Knitting
- Dyeing and Finishing
- Garment Manufacturing

Students choose a direction at the 5<sup>th</sup> semester.

**Head of the Department:** He is elected every three years by the academic staff and the representatives of students.

**Head of Group:** The courses of the Department are separated into three groups and there is a head of every group who is responsible for organizing and managing the educational procedure. The head of every group is elected every year by the academic staff and the representatives of students.

**Committee of the Department:** The Head of the Department, the Head of every group and the representatives of the students govern this committee.

**Department's General Assembly:** This body is the dominant board of the Department.

#### C.1.4 Department facilities

The Department of Textiles has the following Laboratory rooms:

- C011 Laboratory of Knitting Design and Production
- C012 Spinning laboratory
- C013 Weaving laboratory
- C022 Garment production laboratory
- C023 Laboratory of Computer Multimedia
- C025 CAD production of garments laboratory
- B211a Laboratory of Fabric Quality Control
- B211b Laboratory of Fibre and Yarn Quality Control
- B213 Laboratory of Dyeing and Finishing at semi-industrial scale
- B214 Dyeing and Finishing laboratory

#### C.1.5 Grading system

GREEK	ECTS
From 10 to 8.5 =Excellent	A=Excellent
From 8.4 to 7 = Very Good	B=Very Good
From 6.9 to 6 = Good	C=Good
From 5.9 to 5 = Almost Good	D=Almost Good
5 is the lowest passing mark	E=lowest passing mark
From 4.9 to 0 = Fail	F=Fail

### C.1.6 Course schedule

CODE	COURSE	TYPE	ECTS	L	P
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1st SEMESTER					
TX GC 11-6	Mathematics	GC	6	3	2
TX GC 12-5	Physics I	GC	5	2	2
TX GC 13-5	General Chemistry	GC	5	2	2
TX GC 14-4	Technical Design	GC	4	1	4
TX SC 15-5	Introduction to Spinning and Weaving Technology	SC	5	2	2
TX SC 16-5	Introduction to Knitting and Garment Manufacturing	SC	5	2	2
TX GO 17-4	Foreign Language I	GO	4	2	-
TX GO 18-4	Introduction to Information technology	GO	4	2	-

2 nd SEMESTER					
TX GC 21-4,5	Physics II	GC	4,5	2	2
TX GC 22-4,5	Physical Chemistry	GC	4,5	2	2
TX GC 23-4,5	Mechanics	GC	4,5	2	2
TX GC 24-6,5	Applied Mathematics	GC	6,5	3	2
TX SC 25-5	Introduction to Dyeing and Finishing	SC	5	2	2
TX SC 26-5	Textile Polymer Science	SC	5	2	2
TX GO 27-4	Foreign Language II	GO	4	2	-
TX GO 28-4	Mathematics of special subjects	GO	4	2	-

3 rd SEMESTER					
TX GC 31-5,5	Computer programming	GC	5,5	2	4
TX SC 32-4,5	Textile Fibres	SC	4,5	2	2
TX SC 33-5	Technology of Fibres and Yarns	SC	5	2	2
TX SC 34-5	Weaving Technology	SC	5	2	2
TX SC 35-5	Knitting Technology	SC	5	2	2
TX SC 36-5	Dyeing and Finishing Technology	SC	5	2	2
TX GO 37-4	Foreign Language III	GO	4	2	-
TX GO 38-4	Textile Physics	GO	4	2	-



4 th SEMESTER					
TX GC 41-5	Machine Elements	GC	5	3	-
TX GC 42-5	Control Systems	GC	5	2	3
TX SC 43-5	Technology of Garment Manufacturing	SC	5	2	2
TX SC 44-5	Quality control of Yarns	SC	5	2	2
TX SC 45-5	Quality control of Fabrics and Garments	SC	5	2	2
TX SC 46-5	Quality control of Dyeing and Finishing	SC	5	2	2
TX GO 47-4	Textile Process control	GO	4	2	-
TX GO 48-4	Design of Experiments	GO	4	2	-

5 th SEMESTER					
TX GC 51-5,5	Marketing	GC	5,5	3	-
TX SO/S 52-7,5	Yarn production in the cotton system	SO	7,5	3	4
TX SO/S 53-5,5	Preparation of Weaving	SO	5,5	2	3
TX SO/S 54-5,5	Woven fabric manufacturing technology I	SO	5,5	2	3
TX SO/S 55-6	Weaving design I	SO	6	2	4
TX SO/K 52-6	Technology of straight bar and flat knitting machines	SO	6	2	4
TX SO/K 53-5,5	Design of weft-knitted fabrics	SO	5,5	2	3
TX SO/K 54-7,5	Technology of circular knitting machines	SO	7,5	3	4
TX SO/K 55-5,5	Technology of warp-knitting machines	SO	5,5	2	3
TX SO/G 52-7,5	Apparel – Art and design	SO	7,5	3	4
TX SO/G 53-5,5	History of Costume	SO	5,5	2	2
TX SO/G 54-5,5	Garment design and analysis	SO	5,5	2	4
TX SO/G 55-6	Garment production planning	SO	6	2	4
TX SO/D 52-5,5	Colour Chemistry	SO	5,5	2	3
TX SO/D 53-7,5	Mechanical and Chemical Finishing	SO	7,5	3	4
TX SO/D 54-5,5	Mechanical Equipment of the Dyeing and Finishing plants	SO	5,5	2	3
TX SO/D 55-6	Textile printing principles and processes	SO	6	2	4
TX GO 56-4	Digital systems and micro-processors	GO	4	2	-
TX GO 57-4	High performance fibres	GO	4	2	-

6 th SEMESTER					
TX GC 61-5,5	Textile law	GC	5,5	3	-
TX GC 62-5,5	Health and Safety – Environmental protection	GC	5,5	3	-
TX GC 63-4	English for specific purposes	GC	4	2	-
TX SO/S 64-7,5	Weaving design II	SO	7,5	3	4
TX SO/S 65-7,5	Yarn production in the woolen system – Continuous filament yarns	SO	7,5	3	4
TX SO/K 64-7,5	CAD for Knits I	SO	7,5	3	4
TX SO/K 65-7,5	Design of warp – knitted fabrics	SO	7,5	3	4
TX SO/G 64-7,5	CAD for garment design	SO	7,5	3	4
TX SO/G 65-7,5	Design of a garment collection	SO	7,5	3	4
TX SO/D 64-7	Textile dyeing pretreatments and Bleaching	SO	7	3	3
TX SO/D 65-8	Dyeing kinetics and processes	SO	8	3	5
TX GO 66-4	Technical Textiles	GO	4	2	-
TX GO 67-4	Process control and quality assurance	GO	4	2	-

7 th SEMESTER					
TX GC 71-5,5	Textile management and organization	GC	5,5	3	-
TX GC 72-4	Non-wovens	GC	4	2	-
TX SO/S 73-5,5	Structural mechanics of fibres, yarns and fabrics	SO	5,5	3	-
TX SO/S 74-5,5	Woven fabrics manufacturing technology II	SO	5,5	2	4
TX SO/S 75-5,5	Post spinning processes and new technologies	SO	5,5	2	4
TX SO/S 76-4	Organisation and strategy of spinning and weaving production	SO	4	2	-
TX SO/K 73-7	CAD for knits II	SO	7	3	3
TX SO/K 74-4	Knitting art and design	SO	4	2	-
TX SO/K 75-5	Technology of sock production	SO	5	2	3
TX SO/K 76-4,5	Technology of knitted garment production	SO	4,5	2	2
TX SO/G 73-5,5	CAD system for garment production	SO	5,5	2	4
TX SO/G 74-7,5	Integrated garment manufacturing	SO	7,5	3	4
TX SO/G 75-3,5	Production organization –	SO	3,5	2	-

	Competition strategies in garment manufacturing				
TX SO/G 76-4	Garment quality assurance	SO	4	2	-
TX SO/D 73-7	Blend dyeing and productivity optimization	SO	7	3	3
TX SO/D 74-4,5	Textile dyeing post-processes and effluent treatment	SO	4,5	2	2
TX SO/D 75-5	Colour measurement and colour matching	SO	5	2	3
TX SO/D 76-4	Mass and energy transport in dyeing and drying processes	SO	4	2	-
TX GO 77-4	Textile art and design	GO	4	2	-
TX GO 78-4	Technology of Textile dyeing auxiliaries	GO	4	2	-

Each semester has a total of 30 credits. The modules of all specialization directions are listed on the table above, yet the student chooses a direction at the 5<sup>th</sup> semester so he / she follows only the courses relating to his / her choice.

### **Nomenclature:**

The codes used for the course modules are explained as follows:

Letters 1 and 2 (TX) denote the department, that it Textiles.

Letter 3 denotes (G)eneral or (S)pecific

Letter 4 denotes (C)ompulsory or (O)ptional

Letter 5 denotes the group of the department where this applies. Groups are functional after the 5<sup>th</sup> semester. Group characteristic letters are (S) for Spinning and Weaving, (K) for Knitting, (D) for Dyeing and Finishing and (G) for Garment Manufacturing.

The 6<sup>th</sup> element of the code is a digit denoting the studying semester

The 7<sup>th</sup> element of the code is a digit denoting the course module key number

The 8<sup>th</sup> element of the code shows the credits E.C.T.S. associated with the course module

L = Lecturing hours per week

P = Practical or Laboratory hours per week

## **C.2 Degree structure**

### **C.2.1 Qualifications**

All the first year students are registered in September but half of them attend classes of the winter semester which starts at the last week of September and the rest of them attend classes of the spring semester which starts at the last week of February.

Each academic year consists of two semesters and each semester lasts 15 weeks.

Each student has to choose the courses for each semester of the study program, according to the aforementioned course schedule. The students can covers around 35 teaching hours per week. Some courses have prerequisites, which have to be successfully completed before the following course is to be attended.

After the completion of the 15 weeks teaching period all students are sitting in final examinations for each course. These exams are both in the theoretical and practical part of the course.

There are two examination periods for each semester and every student has to get at least five (5) in the grading scale 0 to 10 in order to successfully complete a course.

The practical part of the course is examined in the Laboratory and the student must pass the 80% of the taught practical exercises.

The 8<sup>th</sup> semester involves the industrial or practical training and the research project that leads to a thesis. The students can do the practical training after the 7<sup>th</sup> semester, if they have passed the 2/3 of the total courses and all the compulsory courses of their specialty (specific). The training of the student should be in the private or public sector and in a field that must be relative to the department's objectives. The training is supervised by a academic member that examines the nature of the practical experience and the consistent way the student is engaged to it.

All students during have to carry out a research thesis on a specialized project relative to the department's objectives, for at least six months. This is supervised by a panel of three members of the academic staff. This project, when finished, is presented to a council of three members of the academic staff and it is considered as successfully done if the grade is over five (5).

### C.2.2 Course structure diagram

The prerequisite courses are the following:

No	COURSE	PREREQUISITE COURSE
1	Applied mathematics	Mathematics
2	Textile Polymer Science	General Chemistry
3	Yarn production in the cotton system	Technology of Fibres and Yarns
4	Woven fabric manufacturing technology I	Weaving Technology
5	Weaving Design II	Weaving Design I
6	Woven fabric manufacturing technology II	Woven fabric manufacturing technology I
7	Textile dyeing pretreatments and Bleaching	Introduction to dyeing and finishing
8	Dyeing kinetics and processes	Dyeing and finishing technology
9	Blend dyeing and productivity optimisation	Dyeing kinetics and processes
10	Textile dyeing post-processes and effluent treatment	Quality control of dyeing and finishing
11	Technology of straight bar and flat knitting machines	Knitting technology
12	Design of warp-knitted fabrics	Technology of warp knitting machines
13	CAD for knits II	CAD for knits I
14	Technology of sock production	Technology of circular knitting machines
15	Garment production planning	Technology of Garment Manufacturing
16	Design of a garment collection	Garment design and analysis
17	CAD system for garment production	CAD for garment design
18	Integrated garment manufacturing	Design of garment collection

### C.2.3 Teaching staff

The Department has 14 full time teaching staff members, 3 technicians, 2 administrative staff members and a number of part-time teaching staff members. The department accepts 220 annually through the National Greek examination system.

A/A	NAME	TITLE
1	Boussias Charalampos	Professor
2	Galanopoulos George	Assistant Professor
3	Ginopoulou Agnes	Applications Professor
4	Gravas Efthimios	Assistant Professor
5	Koklas Nikolaos	Application Professor
6	Moutsatsos Charalampos	Application Professor
7	Papadias Nikolaos	Application Professor
8	Papastergiou Nikolaos	Application Professor
9	Peppas Athanasios	Professor
10	Primentas Antonios	Assistant Professor
11	Priniotakis George	Application Professor
12	Tounti Rontika	Application Professor
13	Tzikou Georgia	Application Professor
14	Vasiliadis Alexandros	Assistant Professor

## C.2.4 Course unit description

### 1 st SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 11-6	Mathematics	GC	6	3	2

**Lecturer:** D. Tsoukalas

**Course description:** Functions-Limits-Continuous functions-Derivatives-Applications of the derivative-Integrals-Applications of the Integral-Indeterminate forms-Vectors and polar coordinates-Differential calculus of functions of several variables-Linear Algebra-Differential equations.

**Objective of the course:** To be accustomed with the aforementioned subjects and be able to apply them in practical situations

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 1 st SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 12-5	Physics I	GC	5	2	2

**Lecturer:** G. Moustakakis

**Course description:**

Elements of Vector Analysis: Derivative of a vector. Data and cross products of vectors. The gradient vector.

Kinematics of a particle: Dynamics of a rigid body. Newton's laws of force.

Laws of conservation

Harmonic oscillations Thermodynamics, temperature, heat, energy etc.

**Objective of the course:**

The students are accustomed with general knowledge of physics and learn the basic laws that will help them further understand the role of physics in their subsequent courses of engineering and chemistry.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

Physics / Savellyeu V.I, Physics / Becker A. Robert

Introduction to theoretical Mechanics / Sokolnikof – Redheffer .

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 1 st SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 13-5	General Chemistry	GC	5	2	2

**Lecturer:** I. Roussias

**Course description:**

Basics of general chemistry and organic chemistry. The theory is accompanied with laboratory tests in qualitative and quantitative chemical analysis.

**Objective of the course:**

The student should be able to understand the chemical nature of textile materials and the processes.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

General Chemistry by J.A. Roussias, Teaching notes.  
Morrison and Boyd "Organic Chemistry" 1998.  
Volhardt "Organic Chemistry" 1996.  
Cotton and Wilkinson "General Chemistry" 1994.

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 1 st SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 14-4	Technical Design	GC	4	1	4

**Lecturer:** A. Smirlis

**Course description:**

**Objective of the course:**

The basics in geometric structures and description geometry, Mechanical drawing (views, various dimensions, symbolism). Designing the elements of machines in the designated / require views and sections (coiling , screws, axles, toothed wheels, pulley blocks, springs, welding). Reading in mechanical assembling and subassembling. Reading in piping, wafer supply, steam, compressed air, reading in construction design.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:**

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 1 st SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 15-5	Introduction to Spinning and Weaving Technology	SC	5	2	2

**Lecturer:** G. Galanopoulos

**Course description:** Yarn processing systems:

- cotton system
- worsted system
- filament system
- weaving preparation: winding –twisting-warping-warp sizing. Introduction to weaving process functions: warp feeding-shedding-picking-beat up-take up.

**Objective of the course:**

This course aims that the students understand the basic textile terms and definitions along with processes of spinning and weaving.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

1. Manual of Textile Technology R.T.D. Richards - A. B. SYKES TEXTILE INSTITUTE 1994
2. Manual of Textile Technology W. Klein 1995
3. Fabric Manufacture Alan Newton 1993
4. Handbook of Textile fibres GORDON COOK 1993

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 1 st SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 16-5	Introduction to Knitting and Garment Manufacturing	SC	5	2	2

**Lecturer:** N. Koklas

**Course description:**

- Evolution of knitting textiles from technology, design and economy view.
- Elements of knitted loop structure
- Primary base structure
- Single-jersey
- Double-jersey
- Interlock
- Links-links
- Warp knitting
- Elements of warp knitting
- Basis structure of warp knitting

**LABORATORY:** Application of this pattern.

**Objective of the course:**

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

Spencer J., "Knitting Technology"  
"Knitting International"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 2 nd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 21-4,5	Physics II	GC	4,5	2	2

**Lecturer:** P. Pappas

**Course description:** The course includes:

1. Basic concepts and formulas concerning electricity, electrical current and magnetic field relevant exercises.
2. Physics of the atom and nucleus, electromagnetic theory of light according to Maxwell and Quantum mechanics relevant exercises.
3. Radioactivity, radioactive decay and their application in technology and industry. Relevant exercises.

**Objective of the course:** The purpose of this course is to make students familiar with the basic knowledge for modern technology of electromagnetism, electronics as well as to make them familiar with the most important concepts of physics, the structure of matter and light.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

Ginis S.Ch. and Koutroumpas S., Physics II

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 2 nd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 22-4,5	Physical Chemistry	GC	4,5	2	2

**Lecturer:** G. Nikolaides

**Course description:**

Theory: Chemical Thermodynamics, Reaction Kinetics' Elements, Molecular, Colloid and Electrolytic solutions, Surface tension, Viscosity, Sorption, Electrochemistry elements, Metals, Applied Analytical Physico-Chemical methods.

**Objective of the course:**

The objective of the course is to introduce to certain Chemistry principles, and mainly to those ones related with the kinetics of the chemical reactions and the prediction of their direction. Also, it studies the solid-state structure, the erosion of metal construction and protection. Finally, it contains the training on the applied physicochemical analytical methods, which are used for controlling and identifying colors and fibers.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- 1 . Atkins P . W , "Physical Chemistry" , Leader Books , 1998 .
- 2 . Castellan G . W , "Physical Chemistry" , Addison – Welsey Publ , Co Inc . London, 1983
- 3 . Knox J , "Physico – Chemical Calculations" Methuen & Co LTD , London , 1951 .
- 4 . Mathews G . P , "Experimental Physical Chemistry" , Clarenton Press – University Press , Oxford 1985
- 5 . Prutton and Maron , "Fundamental Principles of Physical Chemistry" , MacMillan Co , N . York 1957 .

**Student notes:**

**Examination method:** Written examinations

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 2 nd SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 23-4,5	Mechanics	GC	4,5	2	2

**Lecturer:**

**Course description:**

The theoretical study on the fundamental principles of mechanics and strength of materials. This course helps the students to study the behaviour of brittle and fracture materials through qualitative and quantitative tests using various testing standards: tension, compression, buckling, bending (elastic line), tension creep, fatigue.

**Objective of the course:**

Test methods used in order to determine the mechanical properties and elastic constants of the materials

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:**

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 2 nd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 24-6,5	Applied Mathematics	GC	6,5	3	2

**Lecturer:** D.Tsoukalas

**Course description:**

Improper Integrals and Taylor's Formula-Infinite Series-The foundations of the Theory of probability-Random Variables and distribution functions-Mean Value and dispersion of sums-Products and other functions-The normal distribution and other distributions-Theory of Errors- Theory of adjustment.

**Objective of the course:**

To be accustomed with the aforementioned subjects and be able to apply them in practical situations. The students make use of a computer and they are learning to handle statistical problems.

**Teaching method:** Lecture and laboratory

**Prerequisites:** Mathematics

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examinations

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 2 nd SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 25-5	Introduction to Dyeing and Finishing	SC	5	2	2

**Lecturer:** Dr. A. Vassiliadis

**Course description:**

Light and colour. Dyes. The role of water in the dyeing process. Dyeing solutions. Chemical equilibrium. Electrolyte equilibria. Fastness properties. Dyeing methods. Identification of fibres. Printing: Pretreatments, printing, paste. Spinning of synthetic fibres. Dyeing processes: Batch and continuous.

**Objective of the course:**

Introduction to basic principles of textile dyeing and printing

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- ◆ Kulkarni S.V. *et. al.* "Textile dyeing operations" Noyes Publications (1986), ISBN 0-8155-1060-8
- ◆ Needles H.L. "Textile fibres, dyes, finishes and processes" Noyes Publications (1986) ISBN 0-8155-1076-4
- ◆ Foulds J., Dyeing and Printing: a handbook (SSTS), Intermediate Technology, (1989), ISBN 1-853-390-283

**Student notes:**

**Examination method:** Written examinations

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 2 nd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX SC 26-5	Textile Polymer Science	SC	5	2	2

### Lecturer:

### Course description:

Theoretical part: Introduction to the course and basic principles. Classification of polymers. Structure and morphology of polymer fibers. Stereochemistry of polymers. Synthesis, structure, properties, fiber making and dyeing of polymeric materials (polyamides, acrylic, polyesters etc). Natural polymers.

Laboratory courses: Viscosity measurements, Gel Permeation Chromatography and X-ray Diffraction for the determination of molecular weights and structure of polymers. IR, UV-Vis spectroscopic methods and optical microscopy for the identification of textile fibers. Mechanical and thermal properties of the fibers. Identification of textile fibers through solubility testing (ASTM).

### Objective of the course:

The course has as objective the basic understanding of the structure and the properties of the textile fibers (synthetic and natural) with final goal their identification and dyeing.

Teaching method: Lecture and laboratory

Prerequisites: General Chemistry

### Teaching aids:

### Bibliography:

1. F.W. Billmeyer Jr., "Textbook of Polymer Science", 3ed., Wiley, 1984.
2. G. Gruenwald, "Plastics- How structure determines properties", Ed. Hanser, 1993
3. R.W. Moncrieff, "Man-made fibers", Ed. Newnes, Butterworths, 1975.
4. H. Naarman & N. Theophilou, "Synthesis of new conducting electronic polymers", Ed. T.A. Skotheim in Electroresponsive Molecular & Polymeric Systems, 1988.

### Student notes:

Examination method: Written examinations

Registration for course:

Registration for examination:

Remarks:

### 3 rd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 31-5,5	Computer Programming	GC	5,5	2	4

**Lecturer:** K.Koinis

**Course description:**

- Introduction to Data Analysis, Structural Programming.
- Use of Algorithms in problem solving.
- PASCAL programming language.
- INTERNET, OFFICE AUTOMATION tools.

**Objective of the course:**

The aim of the lesson is that students can use and manipulate structured programming techniques.

We use as programming platform, PASCAL Language in several programming environments.

Our intention is to give emphasis, on how students can be able to take advantage of using computers at work.

At the same time we provide them with the knowledge of principles of data analysis, structures, and programming techniques.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

### 3 rd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX SC 32-4,5	Textile Fibres	SC	4,5	2	2

**Lecturer:** Dr. Anthony Primentas

**Course description:**

Nature of textile fibres, Classification, Morphology, texture and chemical structure of natural and manmade fibres. Methods and devices for examination of fibre physicommechanical characteristics and properties (length, linear density, maturity, specific weight, elasticity, tensile behaviour, crimp, absorption.

**Objective of the course:**

This course provides an adequate basis for the physical, mechanical and chemical studies of the textile fibres. The quality control for identification of the various fibre properties and characteristics is included. Thus, this theoretical knowledge helps the students to evaluate their judgement for the proper use of the fibres for the production of the various textile products.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- J . W . S . Hearle & R . H Peters : Fibber Structure, Butterworths, Manchester, 1963
- W . E . Morton & J . W . S . Hearl : Physical properties of textile fibers , The Textile Institute , Manchester , 1997
- J . E . Booth : Principles of Textile Testing , Heywood , London , 1970
- J . G . Cook : Handbook of Textile fibers , Parts I & II , Merrow , 1993
- Anon . Identification of Textile Materials , The Textile Institute , Manchester, 1955
- S . B . Warner : Fiber Science , Prentice Hall , 1995
- P . Carty : Fibre properties , Pentaxion Ltd , Newcastle , 1996

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

### 3 rd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX SC 33-5	Technology of Fibres and Yarns	SC	5	2	2

**Lecturer:** Dr. A. Peppas

**Course description:**

This subject is dealing with the textile fibres and their conversion to yarns by the short and long staple systems, the system of continuous filament yarns and textured yarns. The process and machinery used in each case are described and the differences and similarities are shown.

**Objective of the course:**

The aim of all these is for the students to learn to distinguish the textile fibres and techniques to convert them into yarns and to know their characteristics of the yarn produced.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- T. Peppas, Conventional Spinning in the cotton system, 1998
- M.L. Joseph. Essentials of Textiles, Holt, Rinehart, Winston, 1980.
- P.R. Lord. Economics Science and Technology of Yarn Production, The Textile Institute, 1980.
- J.E. Booth. Textile Mathematics Vol.1, The Textile Institute, 1975.
- J.E. Booth. Textile Mathematics Vol.2, The Textile Institute, 1975.
- H. Spibey. The British Wool Manual, Columbine Press, 1969.
- H. Lubos, P. Ursiny. Yarn Texturizing Technology, COMETT EUROTEX, 1994.
- A.Brearly & J.A. Iredale. The Woolen Industry, WIRA, 1980.
- A.Brearly & J.A. Iredale. The Worsted Industry, WIRA, 1980.

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

### 3 rd SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX SC 34-5	Weaving Technology	SC	5	2	2

**Lecturer:** Dr. Agnes Ginopoulou

**Course description:** The students are to be accustomed with the yarn properties that are used during the weaving process. They learn about the technology of weaving preparation. In the next step they learn about the technology of conventional and shuttle – less weaving machines along with the technology of special weaving machines.

**Objective of the course:** The students should learn the basic principles of the processes, technologies and machines that concern the weaving preparation and the production of the fabric.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- P. R. Lord, M. H. Mohamed, Weaving: Conversion of yarn to fabric Watford : Merrow 1992
- Mr. R. Marks, P. J. Lawton, D. A. Holme, An Introduction to Textiles: Volume III – Fabrics, Bolton Institute of Higher Education (U.K.) 1993
- Textile Machinery: Investing for the Future, Manchester: The Textile Institute 1982

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

### 3 rd SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 35-5	Knitting Technology	SC	5	2	2

**Lecturer:** E. Gravas

**Course description:**

- Elements of the technology of flat knitting machines
- Elements of the technology of circular knitting machines
- Elements of the technology of warp knitting machines
- Elements of the technology of sock knitting machines
- Elements of the technology of special knitting machines

**Objective of the course:** The students are going to be taught:  
Elements of the knitting technology and elements of the mechanisms of different types of knitting machines.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

Spencer J., "Knitting Technology"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

### 3 rd SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 36-5	Dyeing and Finishing Technology	SC	5	2	2

**Lecturer:** Dr. A. Vassiliadis

**Course description:**

The dyeing methods of all the natural, man made and synthetic fibres are discussed. Thermotransfer printing and the finishing process of softening are also studied.

**Objective of the course:**

Knowledge of textile dyeing methods and application of laboratory practice in dyeing, printing and finishing.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- ◆ Needles H.L. "Textile fibres, dyes, finishes and processes" Noyes Publications (1986) ISBN 0-8155-1076-4
- ◆ American Association of Textile Chemists and Colorists, "Dyeing primer" AATCC (1981)
- ◆ Ingamells W., "Colour for textiles – A users handbook", SDC (1993)

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 4 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 41-5	Machine Elements	GC	5	3	-

**Lecturer:** Dr. A. Massinas

**Course description:**

General description and principles-Category of machines' elements. General regulations for computation and formation the various elements Standardization-Joinings-tolerances. Weldings-Rivertings-Screws-Springs-Axes-Shafts-Wedges-Splineds-Joints-Bearings-Gears-Belts-Chains-Cams.

**Objective of the course:**

The students should learn the various parts of the machines and their purpose. They also understand basic mechanical properties of these parts.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- 'Fundamentals of Machine Design' P. Orlov MIR Publishers Moscow.
- 'Mechanical Engineering Design' J. Shigley and L. Mitchel Fourth Edition Mc Graw- Hill Company .
- 'Mashine Design' P . H . Black and O . E Adams Mc Graw – Hill Company.
- 'Gear Handbook' Darle W . Dudley Mc Graw – Hill Company.
- 'Engineering Drawing' I . S Vyshnepolsky MIR Publishers Moscow .
- 'Analytical Mechanics of Gears' E . Buckingham Dover Publications . 1949

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 4 th SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX GC 42-5	Control Systems	GC	5	2	3

**Lecturer:** G. Politis

**Course description:**

Theory:

- Open-loop and close-loop control circuits, feed back control, block diagrams, mathematical description of linear elements, basic elements of feed back control
- Controlled system, stabilized systems, non stabilized systems
- Controllers (P, I, D, PI, PD, PID - controller)
- Analysis of feed back control systems
- Criteria of stability (Nyquist, Nyquist and Bode), experience criteria.

**Objective of the course:**

The introduction in:

- a) analysis of each element
- b) composition of the closed loop control systems

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

Xanders /Enders : Regelungstechnik mit elektrischen Bauelementen . Werner – Verlag GmbH 1981 – Duesseldorf .

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 4<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 43-5	Technology of garment manufacturing	SC	5	2	2

**Lecturer:** G. Priniotakis

**Course description:**

Elements of machinery for garment manufacturing  
Elements of garment manufacturing planning  
Elements of Pattern design for garment manufacturing  
Elements of Sewing department  
Elements of Garment quality control  
Elements of logistics for garment manufacturing industry

**Objective of the course:**

The student to be taught the:

- garment production planning
- garment production equipment
- logistics for garment manufacturing industry

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

#### 4 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 44-5	Quality Controls of Yarns	SC	5	2	2

**Lecturer:** Dr. A. Primentas

**Course description:**

Principals of yarn textile testing. Physical, mechanical properties & characteristics of yarns (count twist strength, appearance, hairiness, evenness, snarliness).

Statistical methods for evaluation of results obtained from quality control testing.

**Objective of the course:**

The necessity and the principles of yarn quality control is the objective of this course. The examination & the results of the various yarn properties & characteristics help the students to understand the presence of the quality control in the textile industry.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 4 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 45-5	Quality Control of Fabrics and Garments	SC	5	2	2

**Lecturer:** E. Gravas

**Course description:**

Instruments of quality control of fabrics and garments  
Methods and procedures for quality control for fabrics  
Methods and procedures for quality control for garments

**Objective of the course:**

The students are going to be taught how to organise a quality control laboratory for fabrics and garments. The procedures of quality control according to the international standards. Determination of specifications for each textile product.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- Spencer J., "Knitting Technology"
- Raz S. "Flat Knitting, The New Generation"
- Booth J.E. "Principles of the Textile Testing"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 4 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SC 46-5	Quality Control of Dyeing and Finishing	SC	5	2	2

**Lecturer:** Dr. C.M.Boussias

**Course description:**

Identification of textiles by burn test, by shirlastain test and by solubility. Qualitative and Quantitative analysis of blended fabrics. Identification of dyestuffs. Determination of Colour Fastness of Textiles. Theory of Grayscale of assessing change in colours and staining. Fastness to washing and rubbing. Measurements of hydrophilic finishing of textiles.

**Objective of the course:**

The fast and simple instrumental quality control of textiles during process and in the final product stage.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- ◆ Holme I., "The provision, storage and handling of dyes and chemicals for textile dyeing, printing and finishing", United Nations Industrial development Organisation (1980)
- ◆ Jones E.B., "Chemical testing and Analysis", The Textile Institute (1983) ISBN 0-900-739-339
- ◆ Bona M., "Textile Quality", The Textile Institute, (1994) ISBN 1-870-812-603
- ◆ Duff D.G., Sinclair R.S., "Giles Laboratory course in dyeing" Society of Dyers and Colourists, (1989)
- ◆ "Standard Methods for the Determination of the Colour fastness of Textiles", The Society of Dyers and Colourists

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 51-5,5	Marketing	GC	5,5	3	-

**Lecturer:** S. Patsikas

**Course description:**

Marketing course has the following objectives:

- Concept of modern marketing
- Marketing and management
- Information systems
- Market research
- Consumer reactions
- Sales management
- Strategy of product sales and cost analysis
- Advertising

**Objective of the course:**

The course introduces the students in marketing concept and initiates them to the areas described in the course description above.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/S 52-7,5	Yarn Production in the Cotton System	SO	7,5	3	4

**Lecturer:**

**Course description:**

Theory: Study of the cotton yarns. Technical specifications. Study and evaluation of the technical equipment for the opening, cleaning, teaseling, combing, preparing and spinning of the cotton yarns. Reference to different spinning machinery system. Study of the quality control of the production procedure.

Laboratory: Tests for technical applications for the various production machines. Tests for the control of the production procedures.

**Objective of the course:**

The course intends:

- As per as the theoretical part is concerned to in depth familiarized the students with the philosophy of the textile procedures, the fabric making, the technology and the operation of the required equipment. As well the conventional and non-conventional technologies.
- On the laboratory part to obtain skills on quality and production applications of the textile procedures.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Technology of fibres and yarns

**Teaching aids:**

**Bibliography:**

Carminati: Filatura del cotone, 1960

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 5 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/S 53-5,5	Preparation of Weaving	SO	5,5	2	3

**Lecturer:** Dr. Agnes Ginopoulou

**Course description:**

The course includes the following subjects:

- Yarn types and yarn properties that are used in weaving.
- Warping: Principles, technology, calculation and fault prevention
- Sizing: Technology, ingredients and size recipes, calculations and fault prevention.
- Drawing-in and knotting: principles, construction elements of healds, reeds and drop-wires.
- Pirn winding: Principles, technology of pirn and fault prevention.

**Objective of the course:**

The students are to learn the technological processes concerning the preparation of warp and weft yarns for the weaving process.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- L. Simon, M Hubner, Vorberetungstechnik fur die Weberei, Wirkerei und Strickerei Springer Verlag, Berlin, Heindeberg, New York, Tokio 1983.
- A.Ormerod, Modern Preparation and Weaving Machinery Butterworth & Co. (Publishers) Ltd 1983.

**Student notes:**

**Examination method:**

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5 th SEMESTER

CODE	COURSE	TYP E	ECTS	L	P
TX SO/S 54-5,5	Woven Fabric Manufacturing Technology I	SO	5,5	2	3

**Lecturer:** Dr. Agnes Ginopoulou

**Course description:**

The students understand the working principles, the construction, the adjustments and the servicing of the certain mechanical parts of the weaving machine, namely, the drive mechanism, the letting off motion and taking off motion mechanism and the shedding motion mechanism.

**Objective of the course:**

The student should be accustomed with the structure, operation and mechanical kinetics of the mechanisms consisting the weaving machine.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Weaving Technology

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Oldrich Talavasek, Vladimir Svaty  
Shuttleless Weaving Machines  
Amsterdam - Oxford - New York 1981
- A.Ormerod  
Modern Preparation and Weaving Machinery  
Butterworths & Co Ltd 1993
- Vincent John  
Shuttleless Looms  
Manchester: Textile Institute 1980

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5 th SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX SO/S 55-6	Weaving Design I	SO	6	2	4

**Lecturer:** Moutsatsos Charalambos

**Course description:**

- Fundamental weaves (Plain weaves, Twill weaves, Sateen weaves)
- Derivatives of Fundamental weaves
- Diamond and diaper designs
- Combined weaves (Crepe weaves, Honeycomb weaves, Perforated fabrics)
- Back Warp Weaves
- Back Weft Weaves

**Objective of the course:**

This course provides an adequate basis for the comprehension of the simple woven fabric structures as well the principles of the design (weaves) application to a fabric and vice versa. It covers a range from the simple weaves up to compound weaves. Furthermore, special attention is paid to the combination of the yarn colour and the weave effects in plain woven fabrics.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Blinov, Shibabaw Belay, Design of woven fabrics 1988
- Autorenkollektiv, Gewebe Technik, Veb Fachbuchverlag, Leipzig 1978
- Hans Walter Kipp, Narrow Fabric Weaving, Salzburger: Sauerlander 1989

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 52-6	Technology of straight bar and flat Knitting Machines	SO	6	2	4

**Lecturer:** E. Gravas

**Course description:**

Characteristics of the flat bed knitting machines  
Elements of the flat bed knitting machines  
Principals of Knitting (R/L, R/R, R/Rg, L/L)  
Activation of the needles (direct, indirect, electronics)  
Special fabrics and single knitted machines, knitting machines  
Control and automation of electronic.

**Objective of the course:**

The students are going to be taught the technology of the flat bed knitting machines, the mechanisms of the bed knitting machines, and the automation of the electronic knitting machines.

**Teaching method:** Lecture and laboratory

**Prerequisites:** Knitting Technology

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Spencer J., "Knitting Technology"
- "Knitting International"
- Raz S. "Flat Knitting, The New Generation"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 53-5,5	Design of weft-knitted fabrics	SO	5,5	2	3

**Lecturer:** N.Koklas

**Course description:**

- Presentation and analyse the way of weft-knitted fabric design.
- Creation of complex designs based on rib and interlock structures.
- Creation of design using colour yarns.

**Objective of the course:**

The student should be able to:

- know the basic principles of weft-knitted fabrics design and analysis.
- check the design in the production line and to correct any possible problem.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- Spencer J., "Knitting Technology"
- "Knitting International"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 54 -7,5	Technology of circular knitting machines	SO	7,5	3	4

**Lecturer:** N.Koklas

**Course description:**

Characteristics of the circular knitted machines

- Elements of circular knitted machines
- Principals of knitted (R/L, R/R, R/Rg, L/L)
- Activation of the needles (direct, indirect, electronics)
- Speciality fabrics and single knitted machines
- Special circular machine
- Pattern application in jacquard, footer etc.

**Objective of the course:**

The students are to be accustomed with the technological several types of flat and bar knitting machines. They also manage to differentiate the specific machinery operation and abilities.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Spencer J., "Knitting Technology"
- Palling D. F. "Warp Knitting Technology"
- Raz S. "Flat Knitting, The New Generation"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 55 - 5,5	Technology of warp-knitting machines	SO	5,5	2	3

**Lecturer:** R. Toundi

**Course description:**

- Warp-knitting machines in general
- Classification of warp-knitting machines – characteristics
- Basic mechanisms – principles
- Warp-preparation – warping
- Stages of loop formation
- Tricot machines
- Raschel machines
- Types of warp-knitted fabrics – structures
- Differences of warp and weft knitting machines and their fabrics
- Technological calculations
- Study visits in warp-knitting industries
- Familiarity with machines operation

**Objective of the course:**

The students learn to create, in a laboratory scale, several types of warp-knitted fabrics. Therefore, they learn the mechanics and the adjustments of the warp-knitting machines.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Spencer J., "Knitting Technology"
- Palling D. F. "Warp Knitting Technology"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 52-7,5	Apparel-Art and Design	SO	7,5	3	4

**Lecturer:**

**Course description:** The students are going to be taught to design figures for male, female and kids, the harmony of colors, to create colored designed fabrics like jacquard and models like skirt, blouse, shirt, overcoat, trousers.

**Objective of the course:** The lesson is intended to make the students capable to design free pattern, to use the colors and to make figures with models.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:** CD ROM and Lecture notes.

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX So/G 53-5,5	History of Costume	SO	5,5	2	2

**Lecturer:**

**Course description:** The students are going to be taught the history of fashion, fashion forecast and materials for garment's making like threads, buttons, zips, and how to promote garments due to market's alley.

**Objective of the course:** The lesson is intended to make the students capable to know the history of garment, to realize the way of fashion, to know the accessories which are useful for garments and to use them.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:** CD ROM and Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 54-5,5	Garment design and analysis	SO	5,5	2	4

**Lecturer:**

**Course description:** The students are going to be taught how to take measurements from a body, how to design the basic pattern for a variety of garments in different sizes, how to alter the basic pattern in order to create a new one with different style and how to create from the basic pattern the other sizes.

**Objective of the course:** The lesson is intended to make the students capable to know the measurements in order to create a garment, to design the basic pattern in different sizes and to change the style of them.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:** CD ROM and Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 55-6	Garment Production Planning	SO	6	2	4

**Lecturer:**

**Course description:** The students are going to be taught ways of laying weaving and knitting fabrics, how to mark a pattern lay and to control the storage area of first and second materials.

**Objective of the course:** The lesson is intended to make the students capable to lay the fabrics for cutting, to use the cutting machines, to organize the cutting department and to know the materials which there are in the storage area.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Technology of garment manufacturing

**Teaching aids:** CD ROM and Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 52-5,5	Colour Chemistry	SO	5,5	2	3

**Lecturer:** I. Rousias

**Course description:**

Basics of dyes chemistry, classification of colorants by chemical structure and dyeing properties. Physical chemical behaviour of dyes and dyeing processes. Description of main textile dyes.

**Objective of the course:**

The student will be able to know and use substrates and dyes in the dye house.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- Colour Chemistry, Heinrich Zollinger,1991
- The chemistry and application of dyes, Dr. Waving G. Hallas, 1994
- Textiles Virginia Elsasser,1997
- Paint Chemistry, J. Bentley, G.P.A Turner 1998

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 53-7,5	Mechanical and Chemical Finishing	SO	7,5	3	4

### Lecturer:

### Course description:

Familiarization with the different types of mechanical and chemical finishing of industrial interest. Achievement of different fabric types with the optimal quality and minimal cost, with respect to the environment and eco-systems.

### Objective of the course:

- Mechanical finishing and its goals.
- Types of Chemical and Finishing products.
- Softening, desizing, hydrophobic finishing, antistatic.
- Finishing procedures depending on the weaving and knitting processes.
- Comparison of finishing methods and products in relation to their effectiveness.

**Teaching method:** Lecture and Laboratory

### Prerequisites:

### Teaching aids:

### Bibliography:

- ◆ Carty P., και Byrne M.S., “The chemical and mechanical finishing of textile materials”, Newcastle upon Tyne Polytechnic products ltd. (1987)
- ◆ Bearpark I., *et. al.*, “A practical introduction to dyeing and finishing of wool fabrics”, SDC (1986) ISBN 0-901956-44-9
- ◆ Lewis D.M., “Wool dyeing”, SDC (1992)
- ◆ Needles H.L., “Textile fibres, dyes, finishes and processes”, Noyes Publications (1986) ISBN 0-8155-1076-4
- ◆ Bona M., “An introduction to wool fabric finishing”, The Textile Institute (1994) ISBN 1-870-81-259x

### Student notes:

**Examination method:** Written examination

### Registration for course:

### Registration for examination:

### Remarks:

## 5 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 54-5,5	Mechanical Equipment of the Dyeing and Finishing Plants	SO	5,5	2	3

**Lecturer:** Dr. Ch. M. Boussias

**Course description:**

Systematic classification and study of bleaching, dyeing and finishing machines.

**Objective of the course:**

- Design of a modern dye-house.
- Washing Machines
- Mechanical bleaching equipment
- Advantages and limitations of different types of dyeing machines.
- Mechanical finishing installations
- Special calculations in relation to the correct operation of dyehouses.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- ◆ Park J., “A practical introduction to yarn dyeing”, SDC
- ◆ Clarke G., “A practical introduction to fibre and tow coloration”, Dyer Co Publishing Trust
- ◆ Duckworth C., “Engineering in Textile coloration”, SDC (1983), ISBN 0 901 956 317
- ◆ Little A.H., “Water supplies and the treatment and disposal of effluents”, The Textile institute (1975), ISBN 0 900 739 215
- ◆ Mandaras G.W., et. al., “Batchwise dyeing of woven cellulosic fabrics”, SDC (1993)
- ◆ Eters J.N., “Kinetics of dye sorption: effect of dyebath flow on dyeing uniformity”, American Dyestuff Reporter (Iav. 1995) p.3

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 5<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 55-6	Textile Printing Principles and Processes	SO	6	2	4

**Lecturer:**

**Course description:**

Integrated development of principles and knowledge of printing, examination of all industrial methods and application in laboratory printing exercises.

**Objective of the course:**

- Dye and printing auxiliaries.
- Printing production
- Printing on cotton, wool, polyester, polyamides and cellulose acetate.
- Industrial printing methods.
- Direct printing
- Discharge printing course of printing, drying, steaming, washing.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- ◆ Miles L.W.C., “Textile printing”, SDC (1994)
- ◆ Ingamells W., “Colour for textiles – A users handbook”, SDC (1993)
- ◆ Shorey J., “Manual of textile printing”, Thames and Hudson, 2<sup>nd</sup> edition (1992)

**Student notes:**

**Examination method:**

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 61-5,5	Textile law	GC	5,5	3	-

**Lecturer:** E. Protopappa

**Course description:**

Mercantile and Labour law elements which concerns the textile.

Technical and Industrial legislation which concern the textile.

**Objective of the course:**

The students should understand the basics of law relevant to commercial and working environment. There are focused on the textile relating law.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examinations

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 6<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 62-5,5	Health and Safety – Environmental protection	GC	5,5	3	-

### **Lecturer:**

### **Course description:**

The first chapter (labour security) contains:

The cause and the prevention of accidents, factors which affect the workers health, especially in the area of textile, how to deal with fires, accidents caused by electric power, the cause of discharge of electricity and the measures taken against it, the dangers of machineries, transportation, welding and handling chemical products.

The second chapter (environmental protection) contains:

The cause and the consequences of environmental pollution, the nature and the dealing with air pollution, the water (drinking water and waste water), the solid wastes, the noise and the radiation.

### **Objective of the course:**

The course aims to provide knowledge on the principles of safety in a company and teaches how to prevent accidents that relate to processes specific to textiles. It also aims to relate the reasons for the environmental pollution and its prevention or cure via several processes.

**Teaching method:** Lecture

### **Prerequisites:**

### **Teaching aids:**

### **Bibliography:**

FINLAYSON , PITTS “Atmospheric Chemistry” .

H. PERKINS “Air pollution” , Mc Graw Hill

METCALF and EDDY “Waste Water Engineering” , Mc Graw Hill.

### **Student notes:**

**Examination method:** Written examination

### **Registration for course:**

### **Registration for examination:**

### **Remarks:**

## 6 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 63-4	English for specific purposes	GC	4	2	-

**Lecturer:** K. Lambropoulou

**Course description:**

- Methodology of using English Bibliography and authentic texts analysis
- Methodology of translation
- Text skimming
- Language learning through computer using

**Objective of the course:**

To expose students to specific texts and terminology relative to their science i.e. textiles. By the end of the course students should be able to develop their reading, listening and comprehension ability relative to textiles either from books or other sources (e.g. magazines, articles, adapted texts etc.)

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6 th SEMESTER

CODE	COURSE	TYPE	ECTS	L	P
TX SO/S 64-7,5	Weaving Design II	SO	7,5	3	4

**Lecturer:** Moutsatsos Charalambos

**Course description:**

- Tubular fabrics
- Construction of Double fabrics
- Multi – play fabrics
- Terry towelling weaves
- Pile fabrics
- Pique fabrics
- Jacquard design

**Objective of the course:**

This course provides an adequate basis for the comprehension of the double and multi-ply woven fabric structures as well the principles of the design (weaves) application to a fabric and vice versa. It covers a range from the compound weaves up to jacquard weaves. Furthermore, special attention is paid to the combination of the yarn colour and the weave effects in these fabrics.

**Teaching method:** Lecture and laboratory

**Prerequisites:** Weaving Design I

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Blinov, Shibabaw Belay  
Design of woven fabrics 1988
- Autorenkollektiv  
Gewebe Technik  
Veb Fachbuchverlag Leipzig 1978
- Hans Walter Kipp  
Narrow Fabric Weaving  
Salzburg: Sauerlander 1989

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/S 65-7,5	Yarn Production in the Woolen System- Continuous Filament Yarns	SO	7,5	3	4

**Lecturer:**

**Course description:**

Theory: Study of the wool technical specifications and the other regenerate filament of technical-chemical filament. Study for independent use of filaments or mixed. Study and evaluation of the technical equipment for the defect spinning wool system that is combed, carded, semi-combed. General specifications and arrangement of filaments. Yarn production technology of natural silk. Specification and use of yarn silk. Yarn production technology of artificial filament. Texturising yarn production technology, specifications and destination of them.

Laboratory: Tests for technical applications for the various productions machines.

**Objective of the course:**

The lesson intends:

- As per as the theoretical part is concerned to in depth familiarised the students with the philosophy spinning of the wool system, system fabrics and yarn texturising. Also to study the technical equipment.
- On the laboratory part to obtain skills on quality and production application of the produces.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 64-7,5	CAD for knits I	SO	7,5	3	4

**Lecturer:**

**Course description:**

- Presentation of common design systems for knitting
- Elements of electronic knitting machine's function
- Application to the production line
- Preparation procedures to the electronic knitting machine

**Objective of the course:** The student to be familiar to:

- To know the basic electronic knitting machine function
- Analyze the knitting structure
- Solve problems in production line

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

1. Cd-rom with title "Kniting sector"
2. Spencer J., "Knitting technology"
3. Palling D. F. "Warp Knitting technology"
4. Raz S. "Flat Knitting, The New Generation "

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K65-7,5	Design of warp-knitted fabrics	SO	7,5	3	4

**Lecturer:** R.Toudi

**Course description:**

**THEORY :**

- Structure elements of knitted loop
- The needle loop
- The sinker loop
- The overlap
- Single-faced structure
- Double-faced structure
- Interlock pattern
- Patterns links-links
- Jacquard
- Special knittings

**LABORATORY:** Application of this pattern.

**Objective of the course:** The student to be familiar with the structure of the warp-knitted fabrics and the basic principles of design and analysis

**Teaching method:** Lecture and laboratory

**Prerequisites:** Technology of warp-knitting machines

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Spencer J., "Knitting Technology"
- "Knitting International"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 64-7,5	CAD for Garment Design	SO	7,5	3	4

**Lecturer:**

**Course description:** The students are going to be able to use the CAD computer System to create different fabrics, color palettes, to use scanners, to work our photos, and to connect all the peripheral (scanner, monitor, printer) through CAD 's program.

**Objective of the course:** The lesson is intended to make the students capable to design fabrics, to create models, to make a prospect and to create the right files with CAD computer Systems.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 64-7,5	Design of a garment collection	SO	7,5	3	4

**Lecturer:**

**Course description:** The students are going to be taught to present a collection from garments for male, female and kids.

**Objective of the course:** The course is intended to make the students capable of presenting a complete collection of garments.

**Teaching method:** Lecture and laboratory

**Prerequisites:** Garment design and analysis

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 6<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 64-7	Textile dyeing pretreatments and bleaching	SO	7	3	3

**Lecturer:** Dr. A. Vasiliadis

**Course description:**

Methods of preparing the material which is to be dyed and practical application of auxiliaries that are used during dye pretreatments.  
Application of scientific methods and knowledge of textile bleaching.

**Objective of the course:**

Cotton and wool, fibre blend pretreatments.  
Pretreatments of materials which have coloured components.  
Methods of preparing the material which is to be dyed depending on its final use.  
Chemical auxiliaries for dyeing and their application  
Chemical bleaching  
Flax, wool, silk, polyamide, polyester, cellulose acetate bleaching.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Introduction to dyeing and finishing

**Teaching aids:**

**Bibliography:**

- ◆ Datye K.V., και Vaidya A.A., “Chemical processing of synthetic fibers and blends”, Wiley (1984) ISBN 0-471-87654-2
- ◆ Needles H.L., “Textile fibres, dyes, finishes and processes”, Noyes Publications (1986) ISBN 0-8155-1076-4
- ◆ Trotman E.R., “Dyeing and Chemical Technology of Textile fibres”, 6<sup>th</sup> edition, Charles Griffin & Co (1984) ISBN 0-85264-2679

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 6<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 65-8	Dyeing Kinetics and processes	SO	8	3	5

**Lecturer:** Dr. Ch. M. Boussias

**Course description:**

Specialising in the dyeing procedure and dyeing of the microstructure and the macrostructure of fibres.

**Objective of the course:**

Dye Kinetics

Dyeing with all categories of dyes

Dyeing each fabric category with the proper dye category.

Analysis of the symbols on the colour cards.

Influence of temperature, mixing, and Chemical behaviour of fibre in dye kinetics.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Dyeing and Finishing Technology

**Teaching aids:**

**Bibliography:**

- ◆ Johnson A., "The theory of coloration of textiles", SDC (1989)
- ◆ Vickerstaff T., "The physical chemistry of dyeing", ICI Ltd (1954)
- ◆ Trotman E.R., "Dyeing and Chemical Technology of Textile fibres", *6<sup>th</sup> edition*, Charles Griffin & Co (1984) ISBN 0-85264-2679
- ◆ Waring D.R. και Hallas G., "The chemistry and application of dyes", Plenum Publishing Co (1992) ISBN 0-306-43278-1
- ◆ Shore J., "Blends dyeing", SDC (1998)

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 71-5,5	Textile management and organization	GC	5,5	3	-

**Lecturer:**

**Course description:**

Organizational environment.

Evolution of management thought.

Managerial functions: planning, organizing, leading, coordinating, controlling.

Organizational structure of textile business.

**Objective of the course:**

The students should learn the roles of the modern manager. They should learn to face and deal with managerial problems that they will probably meet in managerial positions of their career.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX GC 72-4	Non-wovens	GC	4	2	-

**Lecturer:** G. Galanopoulos

**Course description:**

Characteristics and properties of non-woven materials. Factors influencing the bonding process. Fibres as raw materials of non-wovens. Technology of production of non-woven materials.

**Objective of the course:**

This course aims that the students will understand the basic principles of the technology and attributes of the non-woven materials. In parallel the student will learn the production process and the wide array of application the non-woven materials have.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Medical Textiles BOLTON INSTITUTE 1997
- Needle Punching Technology VACLAR MRSTINA EN FANTISEK FEIGL 1990

**Student notes:**

**Examination method:**

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/S 73-5,5	Structural mechanics of fibres, yarns and fabrics	SO	5,5	3	-

**Lecturer:**

**Course description:**

**Fibres:** Structure and mechanics of bi-component fibres, false twist textured continuous filaments

**Yarns:** Geometry of twisted yarns, packing density, twist, fibre migration, torsional and bending rigidity, yarn behaviour during tensile testing

**Fabrics:** Pierce theory, geometry of woven structure, bending and testing, elasticity

**Objective of the course:**

This course provides an adequate basis for the study of the structure and mechanics of the fibres, the textile yarns and the fabrics. Moreover, the course attempts to cover some theoretical needs of the students in the area of understanding the properties and characteristics of the various textile products.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

-J.W.S. Hearle, P. Grosberg, S. Backer: Structural Mechanics of Fibers, Yarns and Fabrics, Wiley, New York, 1969

-B.C. Goswami, J.G. Martindale, F.L. Scardino: Textile Yarns: Technology, Structure and Applications, J. Wiley & Sons, New York, 1977

-R. Postle, G.A. Carnaby, S.de Jong: The mechanics of wool structures, Ellis Horwood Ltd., New York, 1988

**Student notes:**

**Examination method:** Written examinations

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/S 74-5,5	Woven fabrics manufacturing technology II	SO	5,5	2	4

**Lecturer:** N.Papadias

**Course description:**

- The course includes the operating principles of the construction, the adjustments, fault prevention and servicing of the mechanisms for the weft insertion, beating-up, weft mixing and control of warp and weft yarns.
- The technology of the weaving machines for the construction of special woven fabrics is analysed.

**Objective of the course:**

The students should understand the conventional and new technologies concerning weaving.

**Teaching method:** Lecture and laboratory

**Prerequisites:** Woven fabrics manufacturing I

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- H. Hollstein Band 1  
Fertigungstechnik Weberei Grundlagen  
Veb Fachbuchverlag Leipzig 1978
- H. Hollstein Band 2  
Fertigungstechnik Weberei Mechanismen  
Veb Fachbuchverlag Leipzig 1980
- H. Hollstein Band 3  
Fertigungstechnik Weberei Webmaschinen  
Veb Fachbuchverlag Leipzig 1985

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/S 75-5,5	Post-spinning processes and new technologies	SO	5,5	2	4

**Lecturer:** S. Vasiliadis

**Course description:**

The module includes three major units: Winding, Twisting and New Spinning Techniques.

The most important parts are:

1. Twisting (Principles, Technology, Products, Faults)
2. Twisting (Classic Technique, Two-for-one Technique, Calculations)
3. New Spinning Techniques (Open-End using Rotor, Friction and Air-Vortex, Self twist, Wrapped Fibres Spinning, Variations of the Conventional Techniques, Yarns Characteristics, Calculations)

**Objective of the course:**

The main objective of this course is the deeper understanding, from the part of the students the technology of post-spinning fibre processes and the new technologies of spinning.

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

S. Vasiliadis “New technologies in spinning”  
W. Klein ‘Spinning Systems’

**Student notes:**

**Examination method:** Written examinations

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/S 76-4	Organisation and strategy of spinning and weaving production	SO	4	2	-

**Lecturer:** Dr. A. Primentas

**Course description:**

General principles of production management in spinning and weaving mills according to ISO 9002. Production control based on the TQM. Principle of JIT in spinning and weaving production. Case studies of production management (Personnel, production rates, maintenance, customers' orders).

**Objective of the course:**

The case studies concerning the production management in spinning and weaving mills expand the knowledge of the students gained from studying the principles of management. It is important for the textile technologists to combine the theoretical aspects of technology with their decision-making abilities in order to be more active members in a modern textile mill.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Price, F.: "Right First Time", Gower, 1994
- Fox, M.J.: "Quality Assurance Management", Chapman and Hall, 1993
- Flood, R.L.: "Beyond TQM", J. Wiley & Sons, 1993

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/KN 73-7	CAD for knits II	SO	7	3	3

**Lecturer:**

**Course description:**

- Development of jacquard design in CAD
- Development and construction of intarsia-knits using two, three and four colours
- Development and construction of special designed knits

**Objective of the course:**

The student to be familiar to:

- Load the design to the electronic knitting machine
- Analysing and producing different structures, according to requested standards
- Supervising the electronic knitting-machines and solve any possible problem in the production line

**Teaching method:** Lecture and laboratory

**Prerequisites:** CAD for Knits I

**Teaching aids:**

**Bibliography:**

- Cd-rom with title “Knitting sector”
- Spencer J., “Knitting technology”
- Palling D. F. “Warp Knitting technology”
- Raz S. “Flat Knitting, The New Generation ”

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 74-4	Knitting art and design	SO	4	2	-

**Lecturer:**

**Course description:**

The course is intended to make the students capable to design free pattern, to use the colors and to make fashion design from knitted garments.

**Objective of the course:**

The students are going to be taught to design figures for male, female and kids, the harmony of colors, to create colored designed knitted fabrics and jacquard fabrics.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 75-5	Technology of sock production	SO	5	2	3

**Lecturer:**

**Course description:**

- Presentation of circular machine's technology
- Presentation of different knitting systems
- Presentation of different yarn-feeding systems
- Presentation of different automatism on the machine
- Development of different patterns on the machine
- Development and presentation of the methods of sock sewing

**Objective of the course:**

The student to be familiar to:

- Know the technological differences between several knitting machines
- Know the structure of socks- knitting machines

**Teaching method:** Lecture and laboratory

**Prerequisites:** Technology of circular knitting machines

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- Spencer J., "Knitting Technology"
- Palling D. F. "Warp Knitting Technology"
- Raz S. "Flat Knitting, The New Generation"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/K 76-4,5	Technology of knitted garment production	SO	4,5	2	2

**Lecturer:**

**Course description:**

- Production planning of knitted fabric according to the fashion trends
- Pattern design for classic collection of garments
- Knitted garment sewing department planning

**Objective of the course:** The student to be familiar to:

- Organize knitting garment production
- Know the machinery of knitting garment production

**Teaching method:** Lecture and laboratory

**Prerequisites:**

**Teaching aids:**

**Bibliography:**

- Spencer J., "Knitting Technology"
- Palling D. F. "Warp Knitting Technology"
- Raz S. "Flat Knitting, The New Generation"

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 73-5,5	CAD System for garment production	SO	5,5	2	4

**Lecturer:** G. Priniotakis

**Course description:**

The students are going to be able to use the computer's program in order to a new pattern from the beginning, to make changes on it, to create different sizes from the basic size, and to make marker with the less of waste. They will be also able to calculate the fabric's usage of any kind of garment.

**Objective of the course:** The lesson is intended to make the students capable to create patterns, to generate different sizes, and to create a marker with the less waste of fabric by using CAD computer Systems.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** CAD for garment design

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 74-7,5	Integrated garment manufacturing	SO	7,5	3	4

**Lecturer:**

**Course description:** The students are going to be able to create garments of haute couture and high fashion, to use all the different machines for the couture of a garment like sewing machine, to connect the parts of a garment and to complete it, to organise the different department of the firm (couture department, cutting department.

**Objective of the course:** The lesson is intended to make the students capable to combine fabrics in order to create a pattern, to know the technology of sewing machines and to use them, and also to organize the couture department.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Design of garment collection

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 75-3,5	Production Organization – Competition strategies in Garment manufacturing	SO	3,5	2	-

**Lecturer:** G. Priniotakis

**Course description:** The students are going to be taught organization, marketing, value analysis, fashion trends, logistics, Distribution Channels, CIM systems, delivery of products “just on time”.

**Objective of the course:** The lesson is intended to make the students capable to organize the production of a garment factory, to place the capacity of the firm, to propose investments and to choose the right mechanical equipment and to control the production.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:** Lecture notes

**Bibliography:**

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7<sup>th</sup> SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/G 76-4	Garment quality assurance	SO	4	2	-

**Lecturer:** G. Priniotakis

**Course description:**

The students are going to be taught the meaning of “quality”, how do organize a total quality system in factory of garment creations due to ISO 9000 and how to delivery products on time.

**Objective of the course:**

The lesson is intended to make the students capable to use the international standards of assurance ISO and to know the production’s organization and control.

**Teaching method:** Lecture

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

Selective International standards

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**



## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 73-7	Blend Dyeing and Productivity Optimization	SO	7	3	3

**Lecturer:**

**Course description:**

Introduction to dye procedures of fibre blend products.

Development of modern methods of improving production, automation of dyehouses, and energy conservation.

**Objective of the course:**

Dyeing in one or more steps.

Dyeing with the same or different colour categories

Automatic and dosage pumps.

Automation of the dyehouse.

Technology of saving energy in basic stages of production such as dyeing, drying, and finishing.

Colour choices.

Technique of output maximization.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Dyeing kinetics and processes

**Teaching aids:**

**Bibliography:**

- ◆ Duckworth C., “Engineering in textile coloration”, SDC (1983)
- ◆ Park J., “A practical introduction to yarn dyeing”, SDC
- ◆ Clarke G., “A practical introduction to fibre and tow coloration”, Dyer Co Publishing Trust
- ◆ Mandaras G.W., “Batchwise dyeing of woven cellulosic fibres”, SDC (1993)

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 74-4,5	Textile dyeing post-processes and effluent treatment	SO	4,5	2	2

**Lecturer:**

**Course description:**

Knowledge of procedures which are subsequent to dyeing and facilitate the fixing of the colorants.

Knowledge of the principals of energy recycling and waste processes.

**Objective of the course:**

Dyeing post-process treatments.

Fixing of colours with coupling, oxidation and use of mordant

Dyeing correction

Part and complete dyeing correction.

Chemical and biological waste processes.

Comparison of waste processing methods.

**Teaching method:** Lecture and Laboratory

**Prerequisites:** Quality control of dyeing and finishing

**Teaching aids:**

**Bibliography:**

- ◆ Duckworth C., “Engineering in textile coloration”, SDC (1983)
- ◆ Cooper P., “Colour in dyehouse effluent”, SDC (1995)
- ◆ Metcalf, and Eddy, “Waste Water Engineering, Treatment, Disposal, Reuse”, Mc Graw Hill
- ◆ Lund H.F., “Industrial Pollution Control Handbook”
- ◆ Enviromental Protection Agency (EPA)
- ◆ Martin L.E., “Industrial water purification” (1974)
- ◆ Shriver L.E., and Daugie R.R., “Dye waste treatment and reuse”, American Dyestuff Reporter (1978)

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 75-5	Colour measurement and colour matching	SO	5	2	3

**Lecturer:**

**Course description:**

The objective expression of colours based on colour physics applications in quality control, colour matching and expression of the colour strength.

**Objective of the course:**

Theory of colour measurement.

Colour space CIELAB.

Evaluation of difference between colours, DE CIELAB, CMC, CIE94 and other types.

Application of colour difference in quality control.

Evaluation of colour strength.

**Teaching method:** Lecture and Laboratory

**Prerequisites:**

**Teaching aids:** CDROM Lecture notes

**Bibliography:**

- ◆ McDonald R., “Colour Physics for industry”, *SDC* (1997)
- ◆ Billmeyer B.W., Jr., “Principles of Color Technology”, Wiley (1982)
- ◆ Judd D.B., καὶ Wyszecki G., “Color in business, science and industry”, Wiley (1975)
- ◆ Aspland J.R., καὶ Jarvis J.P., “*Shade sorting re-examined*”, *Textile Chemist and Colorist*, Vol. 24 (Sept. 1992) p. 88
- ◆ Sargeant C., “*Global colour communication: The Marks and Spencer’s way*”, *Colour Science ’98 International Conference Book of Papers* (Apr. 1998)

**Student notes:**

**Examination method:** Written examination

**Registration for course:**

**Registration for examination:**

**Remarks:**

## 7 th SEMESTER

<b>CODE</b>	<b>COURSE</b>	<b>TYPE</b>	<b>ECTS</b>	<b>L</b>	<b>P</b>
TX SO/D 76-4	Mass and energy transport in dyeing and drying processes	SO	4	2	-

### **Lecturer:**

### **Course description:**

Introduction to thermodynamics, fluid mechanics, conductivity, mass and energy transport in the dyehouse and dryers.

### **Objective of the course:**

Thermodynamic laws

Work and heat

Dye thermodynamic systems

Installations for production and circulation of steam

Basic principles and the processes of drying machines.

Water circulation and recycling.

**Teaching method:** Lecture and Laboratory

### **Prerequisites:**

### **Teaching aids:**

### **Bibliography:**

- ◆ Park J., “A practical introduction to yarn dyeing”, SDC
- ◆ Clarke G., “A practical introduction to fibre and tow coloration”, Dyer Co Publishing Trust
- ◆ Duckworth C., “Engineering in Textile coloration”, SDC (1983), ISBN 0 901 956 317
- ◆ Little A.H., “Water supplies and the treatment and disposal of effluents”, The Textile institute (1975), ISBN 0 900 739 215
- ◆ Mandaras G.W., et. al., “Batchwise dyeing of woven cellulosic fabrics”, SDC (1993)
- ◆ Eters J.N., “Kinetics of dye sorption: effect of dyebath flow on dyeing uniformity”, American Dyestuff Reporter (Iøv. 1995) p.3

### **Student notes:**

**Examination method:** Written examination

### **Registration for course:**

### **Registration for examination:**

### **Remarks:**