

DESCRIPTION OF THE COURSE

Name of the course: Quantitative Methods and Statistics	Code: MAT32	Semester: III
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 30 hours S – 30 hours	Number of credits: 6

LECTURER(S):

Assoc. Prof. Albena Pavlova, PhD (FME), tel.: +359 32 659 681, e-mail: albena_pavlova@tu-plovdiv.bg
Assist. Prof. Iva Naidevova, PhD (FME), tel.: +359 32 659 679, e-mail: iva.naydenova@tu-plovdiv.bg

Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum / curricula for training of students to obtain Bachelor's degree, specialty „Industrial Engineering“, „Design and Print Communications“, Professional orientation 5.13 General Engineering, Field 5. Technical Sciences .

AIMS AND OBJECTIVES OF THE COURSE: The purpose of the academic discipline “Quantitative methods and Statistics” is to introduce students to the underlying knowledge and logic of the statistical methods. It will help them gain knowledge and teach them to apply statistical techniques in analyzing, manipulating and interpreting data, and to evaluate results based on data samples. Students will be able to define relationships between the quantitative characteristic of various objects and processes. It will teach them to develop and solve linear optimization models in various fields of the industry, transportation, commercial industry, finance, and business administration.

DESCRIPTION OF THE COURSE: Main topics: Initial data manipulation. Numeric solutions to central tendency and dispersion. Gini Index. Dynamic indices. Introduction to probability theory. Conditional probability. Formula for total probability. Bayes theorem. Random variables. Discrete probability distributions. Binomial and Poisson distributions. Continuous probability distributions. Normal Distribution. Chi square test of independence. Confidence intervals. Hypothesis testing. Dispersion analysis. Linear Regression. Analysis of time series. Components of time series. Linear optimization models. Transportation problem.

PREREQUISITES: Satisfactory background in mathematics from high school and prior related coursework.

TEACHING METHODS: Lectures and Course work.

METHOD OF ASSESSMENT: Exam

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Проданова Кр., Въведение в статистическите методи, Издателска къща CIELA, София, 1998, 2. Колев Н, Приложна статистика 1, Университетско издателство "Стопанство", София, 1993.

DESCRIPTION OF THE COURSE

Name of the course: Machine elements	Code: MEC04	Semester: 3
Type of teaching: Lectures (L) Laboratory work (LW) Seminary work (SW) Course work (CW)	Hours per semester: L – 30 hours SW – 0 hours LW – 30 hours	Number of credits: 6

LECTURER(S):

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Chief Assist. Prof. Eng. Chavdar Pashinski, PhD (FME), tel.: +359 87 8302513, e-mail: pashinski@tu-plovdiv.bg

Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialties Industrial Management, Design and Print Communications, Professional orientation 5.13 General engineering, Field 5. Technical Sciences

AIMS AND OBJECTIVES OF THE COURSE: The course Machine Elements has a constructive focus and aims to acquaint students with the elemental basis of modern machines, as well as to form knowledge and skills for functional and robust calculation, selection and construction of machine elements.

DESCRIPTION OF THE COURSE: During the lectures and laboratory exercises the general purpose machine elements are studied, such as detachable and non-detachable joints, elastic elements, axles and shafts, sliding and rolling bearings, clutches, mechanical gears. The basic principles of the construction of machine-building products are presented, based on criteria for operability, load-carrying capacity, durability and economy.

PREREQUISITES: Acquired knowledge from the disciplines "Engineering Graphics", "Mechanics", "Resistance of materials", "Materials Science" and others.

TEACHING METHODS: Lectures delivered with the help of a multimedia projector and visual materials. Laboratory exercises for consolidation of theoretical knowledge by example calculation of specific machine elements and experimental determination of their functional characteristics.

METHOD OF ASSESSMENT: Written exam (in the form of a test) for all who successfully defended the protocols from the laboratory.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Димчев Г., Захариев К.: Машинни елементи, ч.1,2,3. София, Софттрейд 2004 г.; 2. Лефтеров. Л., И. Димитров, П.Йорданов. Машинни елементи. София, Техника, 1994г.; 3. Николов Н. и др.: Ръководство за конструктивни упражнения по машинни елементи. София, Техника 1992 г. 4. Арnaudов К.Б., И.П.Димитров, П.В.Йорданов, Л.С.Лефтеров, "Машинни елементи". С. Техника, 1980 г. 5. Mott, R. L., Vavrek, E. M., Wang, J., 2018, Machine elements in mechanical design - Sixth Edition, Pearson Education, Inc., ISBN 10: 0-13-444118-4, NY. 6. Budynas, R. G., Keith Nisbett, J., 2015, Shigley's Mechanical Engineering Design - Tenth Edition, McGraw-Hill Education, New York, ISBN 978-0-07-339820-4. 7. [Курс: Машинни елементи \(tu-plovdiv.bg\)](http://tu-plovdiv.bg). 8. [Курс: Машинни елементи I-ра част \(tu-plovdiv.bg\)](http://tu-plovdiv.bg) 9. [Курс: Машинни елементи II-ра част \(tu-plovdiv.bg\)](http://tu-plovdiv.bg).

DESCRIPTION OF THE COURSE

Name of the course Production Technologies	Code: MEC14	Semester: 3
Type of teaching: Lectures, (L) Laboratory work (LW)/Seminars (S)	Hours per semester: L – 30 hours LW – 30 hours	Number of credits: 6

LECTURER:

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum curricula for training of students to obtain Bachelor's degree, specialty „Industrial Engineering“, „Design and Print Communications“, Professional orientation 5.13 General Engineering, Field 5. Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: After completing the course, the students should know the basic principles of providing machine-building articles quality in the process of their production, the factors that influence quality and the technological properties of the methods of mechanical processing, as well as to be able to make analysis of the technological processes condition and of the quality disturbance sources.

DESCRIPTION OF THE COURSE: Basic topics: Production and technological process, types of machine-building production, production organization forms; quality of the articles; precision of the machine-building articles, types of mistakes and methods of ensuring precision; stability of the technological system and methods of reducing the power distortion mistakes; dimension set-up and sub-adjustment of the technological system; ensuring the quality of the processed surfaces; statistical analysis and technological processes control; active and adaptive control; methods of rough, pure and finishing processing; designing technological processes.

PREREQUISITES: Materials Science and Technology of Materials; Metrology and Measuring Equipment; Metals Cutting; Cutting Tools; Metal-cutting Machines.

TEACHING METHODS: Lectures supported by slides, laboratory work with written statements about the research (observations) results.

METHOD OF ASSESSMENT: Written examination on a topic, drawn by the student, or examination test covering the whole content of the subject.

INSTRUCTION LANGUAGE: Bulgarian.

BIBLIOGRAPHY: 1. Георгиев В., Ст. Пашов. Технология на машиностроенето, ТУ-София, Филиал Пловдив, 2003. ISBN 954-8779-51-X; 2. Пашов Ст., П. Хаджийски. Технология на машиностроенето част 1. ИПК ТУ - София, 1997. ISBN 954-438-203-8; 3. Гатев Г.К., В.И. Георгиев. Ръководство за лабораторни упражнения по технология на машиностроенето, София, „Техника“, 1987.

DESCRIPTION OF THE COURSE

Name of the course Materials science	Code: ENG03	Semester: 3
Type of teaching: Lectures, (L) Laboratory work (LW)/Seminars (S)	Hours per semester: L – 45 hours LW – 30 hours	Number of credits: 6

LECTURER:

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialties Industrial Management, Design and Print Communications, Professional orientation 5.13 General engineering, Field 5. Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The students should receive basic knowledge of the structure, the properties and the application of the most important technical materials (metals and non-metals) used in the industry.

DESCRIPTION OF THE COURSE: The students are consecutively introduced to the construction of alloys, the methods of researching and testing them, the condition diagrams, the phase conversion into liquid and hard state. The methods of improving the materials' properties by mechanical, thermal and chemical and thermal forces are discussed.

PREREQUISITES: Studying Physics and Chemistry.

TEACHING METHODS: Lectures and laboratory work with defence of written statements.

METHOD OF ASSESSMENT: Written examination.

INSTRUCTION LANGUAGE: Bulgarian.

BIBLIOGRAPHY: 1. Бучков Д., М. Кънев. Материалознание С., Техника, 1998; 2. Балеvски А. Т. Металознание, С., Техника, 1988; 3. Кънев М. Х. Металознание и термична обработка. С., Техника, 1990; 4. Анчев В. Х. Физическо металознание, част I. С., 1990; 5. Лахтин Ю. М., В. П. Леонтьева. Материаловедение. М., Машиностроение, 1990; 6. Askeland D., The Science and Engineering of Materials, second S. I. Edition, Chapman, 1992.

DESCRIPTION OF THE COURSE

Name of the course: Internet technologies	Code: CCE25	Semester: 3
Type of teaching: Lectures (L) Seminars (S)	Hours per semester: L – 15 hours S – 30 hours LW – 0 hours	Number of credits: 4

LECTURER(S):

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialties "Design and Print Communications", "Industrial Management" Professional orientation 5.13 General engineering, Field 5. Technical Sciences

AIMS AND OBJECTIVES OF THE COURSE: The aim of the course is for students to get acquainted with and use Internet technologies. Understand the network structure of the Internet, the ISO model, the basic protocols used such as HTTP, TCP / IP, Internet addresses and the name system; applications for cooperation and exchange of information, Internet services, means of protection.

DESCRIPTION OF THE COURSE: The main topics concern: Internet Basics – Internet Network Structure; Network Standards; ISO Model, HTTP, TCP/IP, Internet Addresses; Internet Domain Name Server; World Wide Web; Client and Server; Electronic Mail Basics; Google Cloud Technologies – fundamentals; Web Pages, Web Browsers, Web Servers, Search Engines, Proxy Servers, Website Development and Design, Website Publishing, Web Hosting, Website Security; Internet Collaboration – Social Networks, Mailing List, Web Conferences, Webinars; Internet Security – Firewall Security, Data Encryption; Internet Web Programming – HTML, CSS, Java Script, PHP, ASP, etc.

PREREQUISITES: Information and Communication Technologies

TEACHING METHODS: Lectures using slides and demo programs. Seminar exercises to consolidate theoretical knowledge by solving practical problems.

METHOD OF ASSESSMENT: Two one-hour assessments at mid and end of semester.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Кирил Боянов, Компютърни мрежи. Интернет,,Котларски - Диков“, София, 1998, ISBN 954-9713-01-7; 2.Любен Боянов, Кирил Боянов, Христо Турлаков и др. Компютърни мрежи и телекомуникации; Авангард Прима; 2014, ISBN: 9786191602575; 3.Learn Internet Technologies

https://www.tutorialspoint.com/internet_technologies/index.htm

(I) DESCRIPTION OF THE COURSE

Course Title (b) Sport	Code: SPR03	Semester: 3
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Self-Study (SS)	Hours per semester: L – 0 hours S – 0 hours SS – 30 hours	Number of credits: 1

LECTURERS:

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COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum curricula for training of students to obtain Bachelor's degree, specialty „Industrial Engineering“, „Design and Print Communications“, Professional orientation 5.13 General Engineering, Field 5. Technical Sciences

AIMS AND OBJECTIVES OF THE COURSE: Targeted at further developing of students' physical activities, skills and hygiene habits through effective methods of physical education, improving their mental and physical performance.

COURSE DESCRIPTION: The knowledge and skills in Physical Education and Sports develop a wide range of motor skills and habits, help the hardening of the body and contribute to the moral development of students. The enhancement of physical skills is carried out through:

1. General Physical Preparedness (GPP) – in these seminars the students develop a wide range of motor skill and habits; work to improve strength, speed, endurance, flexibility, structure and skill; increase resistance to unfavorable environmental factors; develop their physical qualities and experience.
2. Sports-Specific Physical Preparedness (SPP) – students improve their sport skills and habits in a specific sport and gain experience through participation in competitions; work to improve strength, speed, endurance, flexibility, structure and skill; increase resistance to unfavorable environmental factors; develop their physical qualities and experience.

PREREQUISITES: The curriculum presumes the minimum of knowledge and skills acquired at secondary school.

TEACHING METHODS: Seminars in accordance with the curriculum in PE and Sport.

METHOD OF ASSESSMENT: Evaluation is based on functional tests at the end of semester. Lecturer's signature is required at the end of semester and “Pass grade”.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Владимиров В. Туризм и ориентиране. Методическо ръководство за студентите от ТУ София, филиал Пловдив. Издателство на ТУ - София. 2010.

DESCRIPTION OF THE COURSE

Name of the course: Color Science	Code: BpP01	Semester: 4
Type of teaching: Lectures (L) Laboratory work (LW) Course work (CW)	Hours per semester: L – 30 hours LW –30 hours CW	Number of credits: 6

LECTURER(S):

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialty Design and Print Communications, Professional orientation 5.13 Basic Engineering, Field 5. Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The aim of the basic course Color Science is for the future specialists in "Graphic Design and Printing" to gain a solid knowledge about color on which basis they would continue further their training in prepress, printing technology and quality control during printing.

DESCRIPTION OF THE COURSE: The main topics: Light, electromagnetic spectrum, properties and characteristics of light; Light and color decomposition of light, visible colors; Color vision, physiology of color, structure of the eye, chromatic and achromatic colors; Mixing colors - additive and subtractive synthesis; Basic parameters of color - color tone, brightness and saturation; Color models and color spaces, color range; Color system CIE Lab; Types of color contrasts; Spatial properties of color; Psychological and physiological impact of colors; Importance of color temperature for color perception; Standardized light sources - D 50, D 65; Colors in design, prepress and printing - Process color and Spot color; PANTONE color catalogs.

PREREQUISITES: Basic knowledge of: Physics (optics), Chemistry, Biology, Fine Arts. Absence of color blindness.

TEACHING METHODS: Lectures, using multimedia presentations, laboratory work on main topics with individual and group practical exercises. Course work.

METHOD OF ASSESSMENT: Written exam (40%), laboratory work (30%), Course work (30%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: Райчев, Р. Цветовете в изкуството, София.: ЛИК, 2005. 170 с., .Евтимова, М. Интерпретации с цвят - ЕИ, София.: Група цвят - България, 2012., Върбанов, П. Цветознание, Университетско издателство "Св. св. Кирил и Методий" Велико Търново, 1994, 124 с., Брем, Х. Магията на цветовете: Цветознание и цветопсихология, СофтПрес, 2010, 224с., Александров, Н. Фундаментална теория на цветовете. Въведение, Изток-запад, 2012, 254 с., Стоун, Т.,Адамс, С., Мориока, Н. Дизайн Цвета практикум, Русии.: РИП-холдинг, 2006., Web sites: <http://enchroma.com/test/instructions/>, <http://xritephoto.com/color-ig-test>, <http://www.color-blindness.com/>, <http://color.method.ac/>.

DESCRIPTION OF THE COURSE

Name of the course: Prepress	Code: BpP01	Semester: 4
Type of teaching: Lectures (L) Laboratory work (LW) Course work (CW)	Hours per semester: L – 30 hours LW –30 hours	Number of credits: 5

LECTURER(S):

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialty Design and Print Communications, Professional orientation 5.13 Basic Engineering, Field 5. Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The aim of the main course is for future specialists in ."Graphic Design and Printing" to gain more specific knowledge about the processes involved in the preparation of each print publication. This knowledge is extremely important in their future implementation in all areas of the graphics industry.

DESCRIPTION OF THE COURSE: The main topics: original types to make a printed publication, types of scanners and their purpose, raster and vector graphics, file formats for prepress, types of photographic images and specifics of preparation for printing, RAW format – key features and opportunities, HDR images, vectorizing scanned images – manually and automatically, word processing in making a printed publication, resolution of the printed publication and its relationship with the lineature, specifications required for preparing a printed publication with spot colors – overprinting and trapping, color reproduction, color cal-stripes, color samples and fingerprint control, ICC profiles, bitmap and raster graphics, moire, RIP(raster image processor).

PREREQUISITES: Introduction to the specialty, Color Science, Graphic Software, Information and Communication Technologies, Internet Technologies.

TEACHING METHODS: Lectures, using multimedia presentations, laboratory work on main topics with individual and group practical exercises.

METHOD OF ASSESSMENT: Written exam (40%), laboratory work (30%), Course work (30%)

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: *Лолър, Б.* Дизайн, предпечат и печат – Официално ръководство на Adobe, София.: Софтпрес, 2006. 188 с., *Михайлов, И.* Наръчник по предпечатна подготовка, второ издание, София.: Книгоиздателство Асеновци, 2010. 170 с., *Качин Н.Б., Спирidonov И.Т.*, Печатни процеси, С., ИК "Плеяда", 2000. Лекции на преподавателя по дисциплината, Списание "Полиграфия", *Полянскй, Н.Н.* Технология на полиграфическото производство, изд. Техника, Adobe Photoshop CS 5, Официален учебен курс, Софт Прес, София, 2011., *Смит, Д., К., Герънтъби, Ф.* Illustrator CS5 for DUMMIES, София.: ИК Алекс-Софт, 2011. 272 с., **Web sites:** www.prograficamagazine.bg, www.printguide.info, www.prepress.bg, www.bulged.wordpress.com

DESCRIPTION OF THE COURSE

Name of the course: Graphic software I	Code: BpP03	Semester: 4
Type of teaching: Lectures (L) Laboratory work (LW) Course work (CW) Current assessment (CA)	Hours per semester: L – 15 hours LW – 45 hours	Number of credits: 5

LECTURER(S):

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialty „ Design and Print Communications“, Professional orientation 5.13 General Engineering

AIMS AND OBJECTIVES OF THE COURSE: At the end of the course the students are expected to be able to apply the basic principles of working with vector graphics, to know and work with Adobe Illustrator and use their knowledge to create web and mobile graphics, logos, icons, book illustrations, packaging of products and billboards

DESCRIPTION OF THE COURSE: The main topics concern: Understanding the Adobe Illustrator, Using shapes to create a drawing; Creating a new document; Work with basic forms; Editing and combining shapes and paths; Bézier curves. Continuity. Approximation. Interpolation; Creating and editing trajectories; Introduction to drawing with the Pen tool; Curve editing; Working with the Pencil tool; Working with drawing boards; Content transformation; Arranging drawings in layers; Text; Use of colors; Brushes; Gradients, transitions and patterns; Use Illustrator with other Adobe applications; Studying the creative application of effects and graphic styles; Working with symbols

PREREQUISITES: Computing, Color Science, Prepress

TEACHING METHODS: Lectures using presentations and demo programs, laboratory exercises with creative tasks and course work. The course work must be defended. The laboratory exercises are conducted with specialized software in computer labs

METHOD OF ASSESSMENT: The achievement of the set goal of the training is controlled through CA (current assessment), which is formed on the basis of creative tasks (30%), laboratory exercises (20%) and course work (50%)

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Браян Ууд, Adobe Illustrator CC 2017: Официален курс на Adobe Systems, 2017, ISBN 978-954-656-342-2; 2. Клаудия Маккю, Съвети и трикове за печат с Adobe Creative Cloud. Продукционни техники за постигане на максимална ефективност, ISBN 978-954-656-335-4; 3. Вон Гличка, Основи на векторната графика с Adobe Illustrator, CorelDRAW и др., 2016 г., ISBN 978-954-656-312-5 4. Альн Б. Ууд, Цифрова палитра на графичния дизайнер, 2007, ISBN 954-839-630-0

DESCRIPTION OF THE COURSE

Name of the course: Media and printing materials I	Code: BpP17	Semester: 4
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 30 hours S – 0 hours LW – 30 hours	Number of credits: 6

LECTURER(S):

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory course from the curriculum for training students for Bachelor's degree, specialty "Design and Print Communications", professional field 5.13 General Engineering, field 5. Technical sciences.

AIMS AND OBJECTIVES OF THE COURSE: The aim of the course is to acquaint students with the various printing materials used as a carrier of the printed image. At the end of the course students know the structure of materials, physical and physico-chemical processes taking place in them and their respective behavior in the printing process.

DESCRIPTION OF THE COURSE: The program of the course includes the main types of substrates with their classifications according to a number of factors. These include paper substrates including cardboard, non-absorbent substrates - flexible packaging, PVC, PET, PE, BOPP, PP and many others. The course is mandatory and fundamental for the study of technological processes and interactions in the graphics industry. Knowledge of the materials is a prerequisite and possibility for engineering-technological analysis of possibilities for application of the materials with a predictable, qualitative result.

PREREQUISITES: Disperse systems, Physico-chemical processes in materials, Mechanics of fluids, Colorimetry, Behavior of materials.

TEACHING METHODS: Lectures using presentations and other visual materials, laboratory exercises with conducting experiments for research and measurement of specific characteristics, protocols with analysis of the conducted experience.

METHOD OF ASSESSMENT: Exam.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Sardjeva R., Printing Technologies, Siela Soft and Publishing, ISBN 978-954-28-0606-6, 2009, 424 pp.; 2. Sardjeva R., Inks, Printing Materials, Siela Soft and Publishing, ISBN 978-954-28-1383-5, 2013, 260 pp.; Helmut Kipphan, Handbook of PrintMedia, Springer,Germany, 2001; 4. Lapatuhin B. C., Print processes, Kniga, Moskva, 1976; 5. The Handbook for Digital Printing and Variable_Data Printingby, Penny K. Bennett, Ph.D. with Harvey Robert Levenson, Ph.D., and Frank J. Romano, PIA/GATFPittsburgh 2007; 6. ECI Guidelines, Guidelines for device-independent color data processing in accordance with the ICC Standard, version 1.1, 05.2000, www.eci.org; 7. Poprjaduhin P. A., Technologies of printing processes, Kniga, Moskva, 1980; 8. Kozarovitckii, L.A., Paper and Inks in the print processes, Kniga, Moskva 1976;9. Kolosov A. I., Andreev U.C. and etc., Printing industry technologies, Kniga, Moskva,1986.

DESCRIPTION OF THE COURSE

Name of the course: Film Photography	Code: BpP05	Semester: 4
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 30 hours LW – 30 hours CW	Number of credits: 5

LECTURER(S):

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Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: Compulsory subject in the curriculum for training students to obtain Bachelor's degree in Design and Print Communications, Professional orientation 5.13 General Engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: After completing the course, students must know all the components of the film (analogue) photography – how it is created, the structure of cameras and lenses, basic operating parameters, types of lighting, photo studio equipment, photo lab equipment, the essence of the photochemical processes, art aspects and techniques in photography.

DESCRIPTION OF THE COURSE: The main topics concern: History of photography. Scientific experiments to create a photographic image. Invention of photography. The structure of a camera. Development of camera designs. Classification of different camera systems. Photographic lenses - structure and basic parameters. Basic settings for camera operation. Exposure number. Lighting - the main tool in photography. Photometric quantities and the interaction between them. Lighting measurement. Daylight and construction of photographic lighting. Artificial lighting. Professional photo studio equipment. Sample schemes of construction of studio lighting. Photolaboratory - structure and equipment. Photographic chemical processes - negative and positive. Color analogue photography. Basic concepts in art photography - composition, light and shadow, tonality, perspective. Art photography - genres. Advertising photography, etc.

PREREQUISITES: Basic knowledge of: Physics (optics), Chemistry, Fine Arts.

TEACHING METHODS: Lectures - using slides and multimedia presentations, laboratory work on main topics with individual and group practical exercises. Course work.

METHOD OF ASSESSMENT: Written exam (50%), laboratory work (20%), Course work (30%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Гаткъм К., Всичко за фотографията. Книгомания, София, 2018, 400, ISBN 9786191951628; 2. Фрийман М., Библия на фотографията. Книгомания, София, 2020, 336, ISBN 9786191952359; 3. Хакинг Дж. Кампани Д., Фотографията-цялата история. Книгомания, София, 2012, 576, ISBN 9789548432863; 4. Келби С., Портретна фотография на естествена светлина, АлексСофт, 200, ISBN 9789546563873;

<https://filmphotographyproject.com/>, <https://analoguewonderland.co.uk/>, <https://shootitwithfilm.com/>.

DESCRIPTION OF THE COURSE

Name of the course: Educational Practice	Code: PRC02	Semester: 4
Type of teaching: Extramural activity	Hours per semester: EA-60 Hours	Number of credits: 2

LECTURER(S):

Chief Assist. Prof. Eng. Valeri Bakardzhiev PhD, (FME), tel.: +359 32 659 519, e-mail: bakardzhiev@tu-plovdiv.bg

Technical University of Sofia, Plovdiv Branch

COURSE STATUS IN THE CURRICULUM: [Compulsory subject in the curriculum for training students to obtain Bachelor's degree in Design and Print Communications, Professional orientation 5.13 General Engineering, Field 5. Technical Sciences]

AIMS AND OBJECTIVES OF THE COURSE: [The educational practice introduces students to the practical work of the basic courses – printing technologies, printing systems and finishing processes. Students get acquainted with printing technologies as well as the basic principles of working with printing machines. The educational practice is held according to a fixed schedule in printing houses that have been approved.]

DESCRIPTION OF THE COURSE: [The main topics concern: health and safety in the printing industry, activities of marketing departments, prepress, offset printing, gravure printing, flexo printing, digital printing machines, finishing process of cutting, folding and casing-in with joint forming press.]

PREREQUISITES: [Knowledge required: printing technologies, printing systems and finishing processes which are the basis of developing general methods for universal solution to problems related to printing technology.]

TEACHING METHODS: [Practical work]

METHOD OF ASSESSMENT: [Continuous assessment]

INSTRUCTION LANGUAGE: [Bulgarian]

BIBLIOGRAPHY:

(I) DESCRIPTION OF THE COURSE

Course Title (c) Sport	Code: SPR04	Semester: 4
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Self-Study (SS)	Hours per semester: L – 0 hours S – 0 hours SS – 30 hours	Number of credits: 1

LECTURERS:

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COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum curricula for training of students to obtain Bachelor's degree, specialty „Industrial Engineering“, „Design and Print Communications“, Professional orientation 5.13 General Engineering, Field 5. Technical Sciences

AIMS AND OBJECTIVES OF THE COURSE: Targeted at further developing of students' physical activities, skills and hygiene habits through effective methods of physical education, improving their mental and physical performance.

COURSE DESCRIPTION: The knowledge and skills in Physical Education and Sports develop a wide range of motor skills and habits, help the hardening of the body and contribute to the moral development of students. The enhancement of physical skills is carried out through:

3. General Physical Preparedness (GPP) – in these seminars the students develop a wide range of motor skill and habits; work to improve strength, speed, endurance, flexibility, structure and skill; increase resistance to unfavorable environmental factors; develop their physical qualities and experience.
4. Sports-Specific Physical Preparedness (SPP) – students improve their sport skills and habits in a specific sport and gain experience through participation in competitions; work to improve strength, speed, endurance, flexibility, structure and skill; increase resistance to unfavorable environmental factors; develop their physical qualities and experience.

PREREQUISITES: The curriculum presumes the minimum of knowledge and skills acquired at secondary school.

TEACHING METHODS: Seminars in accordance with the curriculum in PE and Sport.

METHOD OF ASSESSMENT: Evaluation is based on functional tests at the end of semester. Lecturer's signature is required at the end of semester and “Pass grade”.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Владимиров В. Туризм и ориентиране. Методическо ръководство за студентите от ТУ София, филиал Пловдив. Издателство на ТУ - София. 2010.]