DESCRIPTION OF THE COURSE

Name of the course: **Quantitative Methods and Statistics**	Code: **MAT32**	Semester: II**1**
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):
Assist. Prof. Albena Pavlova, PhD (FME) , tel.: 32 659 678, email: albena_pavlova@tu-plovdiv.bg
Technical University of Sofia

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 printed 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):

Assoc. prof. D.G.Petrov Ph.D , tel +359882142555: email: dimgog@tu-plovdiv.bg, department "MU " , Technical University-Sofia, branch Plovdiv

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialties Industrial Management, Graphic Design and Printing, 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, Софтрейд 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.** Арнаудов 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). **8.** Курс: Машинни елементи I-ра част (tu-plovdiv.bg) **9.** Курс: Машинни елементи II-ра част (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:

Assoc. Prof. Dr. Angel Dimitrov Lengerov, PhD. (Faculty of Mechanical and Instrument Engineering), tel: 659 616; e-mail: anlen@tu-plovdiv.bg,
TU-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 printed 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:
Prof. Dr. Angel Petrov Zyumbilev, Eng. (Faculty of Mechanical and Instrument Engineering),

Tel: 659606, email: zumbilev @ mail.bg.TU-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, Graphic Design and Printing, 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 phaze conversion into liquid and hard state. The methods of improving the materials' properties by mechanical, thermal and chemical and termal 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. Балевски 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) Laboratory work (LW)/Seminars (S)	Hours per semester: L – 15 hours S – 30 hours LW – 0 hours	Number of credits: **4**

LECTURER(S):
Assoc. Prof. Eng. Dilyana Budakova, PhD (FEA), tel.: 965 0895587539, e-mail: dilyana_budakova@tu-plovdiv.bg; dilyana_budakova@yahoo.com
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialty Industrial Management, Professional and Graphic Design and Printing 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 Addressing, Internet Domain Name Server, WWW, Client and Servers; Electronic Mail Basics; World Wide Web and Website Development – Web pages, Web Browsers, Web Servers, Search Engines, Proxy Servers, Website Designing, Website Publishing, Website Hosting, Website Security; Internet collaboration – Mailing List, Social Networking, Web Conferencing, Webinars, Online Education; 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, case studies, laboratory, work in teams, protocols.

METHOD OF ASSESSMENT: Two one-hour assessments at mid and end of semester (72%), laboratories (28%).

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. Internet technologies overview

http://user.engineering.uiowa.edu/~ie181/Documents/Section1-Text.pdf; 4. Learn Internet Technologies https://www.tutorialspoint.com/internet_technologies/index.htm.

DESCRIPTION OF THE COURSE

Name of the course: **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

LECTURER(S):
Assoc. Prof. Valentin Vladimirov, PhD (FEA), tel.: 032 659 646, e-mail: valdesv@tu-plovdiv.bg
Sen. Lect. Daniel Vladimdirov, PhD (FEA), tel.: 032 659 646, e-mail: danielv@tu-plovdiv.bg
Sen. Lect. Krassimir Djaldeti, PhD (FEA), tel.: 032 659 648, e-mail: krsj@tu-plovdiv.bg
Lect. Petar Doganov, PhD (FEA), tel.: 032 659 648, e-mail: pdoganov@tu-plovdiv.bg
Lect. Boris Spasov (FEA), tel.: 032 659 647, e-mail: boris_spassov@tu-plovdiv.bg
Technical University of Sofia-Branch Plovdiv

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 printed 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.

DESCRIPTION OF THE COURSE: 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 unfavourable 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 unfavourable environmental factors; develop their physical qualities and experience.

PREREQUISITES: The curricula presume 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. Туризъм и ориентиране. Методическо ръководство за студентите от ТУ София, филиал Пловдив. Издателство на ТУ - София. 2010.

DESCRIPTION OF THE COURSE

Name of the course: **Economic theory**	Code: **BpIM01**	Semester: **4**
Type of teaching: Lectures(L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 30hours S – 15 hours LW – 0 hours	Number of credits: **4**

LECTURER(S):

Assoc. Prof. Toni Mihova, PhD (FME), tel.: +359 32 659 714, e-mail: mihova@tu-plovdiv.bg
Assist. Prof. Desislava Shatarova, PhD (FME), tel.: +359 32 659 716, e-mail: desislava@tu-plovdiv.bg
Technical University of Sofia, Plovdiv branch
Technical University of Sofia

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

AIMS AND OBJECTIVES OF THE COURSE: This course provides introduction to economic theory and analysis and how they apply to current events. Theoretical models, quantitative and qualitative tools, and critical thinking to develop a deep understanding of economic issues and solutions are used. At the end of the course the students are expected to be able to learn the major economic theories and models, the basic principles of economics and to better understand how the economy works in the real world. The course will help students to understand and relate application of economic factors to business environment. The students will be able to do researches, evaluate and analyze information and data of the economic indicators.

DESCRIPTION OF THE COURSE: The main topics concern: Introduction to economic theory, The multiple aspects of economic science. Definition of major economic theories – classical and new theories: classical economic theory, keynesian theory, monetarism, new classical theory, new keynesian theory. Principles of microeconomics: introduction to economic theory, the theory of the market – demand, supply, pricing, equilibrium; the theory of consumer choice, production, costs, revenues and profit of the company and optimization of manufacturing solutions, economic efficiency; market structures and models of competition; The markets of factors of production – labour, land, capital and entrepreneurship. Principles of macroeconomics: introduction to macroeconomic theory and policy, main macroeconomic issues and indicators: gross national product (GNP) and gross domestic product (GDP); aggregate demand, aggregate supply and macroeconomic equilibrium; business cycle, employment and unemployment, inflation and economic growth; tax system and fiscal policy; the meaning and essence of money and banking system, the role of the central bank and monetary policy; Introducing to international economics - classical theory and modern analysis; international trade, international finance, globalization etc.

PREREQUISITES: Basic knowledge in Economics. Basic economic course in all western universities**.**

TEACHING METHODS: Lectures and seminars, using slides, case studies, work in teams, tests exercises.

METHOD OF ASSESSMENT: Two one-hour assessments (control pre-tests) at mid and end of semester (50%), final exam test during exam session (50%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Седларски, Т., Икономически теории: История на икономическата мисъл , Издателство УИ "Св. Климент Охридски", 2015; 2. Спасов, Т. и колектив, Основи на икономическата теория , Изд. УНСС; 3. Стойчев, Б. Класически и съвременни икономически теории - част 1, Изд. ЮЗУ "Неофит Рилски"; 4. Кьосева, Н., Икономически теории, НБУ; 5. Пипев, Ив., Боян Велев, Катя Бекярова, Икономически теории, Изд. Хермес, 2015; 6. Лалева, Ц., Икономика. Обща икономическа теория, Мартилен, 2017; 7. Лалева, Ц., Икономика, Мартилен, 2017; 8. Димов, Ив. и колектив, Обща икономическа теория – трета част, Изд. Нова звезда, 2009; 9. Марикина, Мария, Глобалната политическа икономия, Изд. УНСС, 2020; 10. Деминг, Уилям, Едуардс, Новата икономика за индустрията, правителството и образованието, Рексинтегра, 2014; 11. Patrick J. Welch, Gerry F. Welch, Economics: Theory and Practice, 11th Edition, January 2016, ISBN: 978-1-119-18501-7; 12. Free, Rhona C., ed. 21st Century Economics: A Reference Handbook. Volume 1. SAGE Publications, 2010, ISBN 978-1-4129-6142-4; 13. McConnell, Campbell R.; et al., Economics. Principles, Problems and Policies (PDF) (18th ed.). New York: McGraw-Hill. 2009, ISBN 978-0-07-337569-4; 14. Anderson, David A., Survey of Economics. New York: Worth.Survey of Economics, 1st Edition , 2019, Macmillan Learning for Instructors ISBN 978-1-4292-5956-9; 15. Economic Theory, Journal, Springer Science & Business Media, Impact factor 1.137 (2015), ISSN 0938-2259; 16. Suranovic, Steve, International Economics: Theory and Policy, Saylor Foundation, 2012; 17. Eicher, Theo, John H. Mutti, Michelle H. Turnovsky, International Economics, 1st edition, Routledge, 2009, ISBN 9780415772860; 18. Salvatore, Dominic, International Economics, 12th Edition, 2015, ISBN: 978-1-118-95574-1; 19. Pugel, Thomas, International Economics, 17th Edition, 2020, ISBN10: 1260004732, ISBN13: 9781260004731, и др.

DESCRIPTION OF THE COURSE

Name of the course: **Basics of Management**	Code: **BpIM02**	Semester: 4
Type of teaching: Lectures(L) Seminars (S) Laboratory work (LW)	Hours per semester: L – 30 hours S – 15 hours LW – 15 hours	Number of credits: 5

LECTURER(S):

Professor Ivan Ivanov, PhD – guest lecturer
Chief Assistant Professor Georgi Georgiev, PhD tel. 659706, email: georgi@tu-plovdiv.bg,
Technical University of Sofia

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

AIMS AND OBJECTIVES OF THE COURSE: Upon completion students will have basic knowledge of the main managerial functions and processes in the contemporary organization. This knowledge is fundamental for the functional managerial courses taught later.

DESCRIPTION OF THE COURSE: Within the Basics of Management the main topics discussed are: The organization and its environment; Evolution of the managerial thought and practice; The management process and the work of managers – main managerial functions, roles, skills and dilemma; Managerial decisions – process and methods; Planning – essence, process and strategic aspects; Organizing - essence, process and organizational structures; Motivation – essence, general model of motivation, process and content theories of motivation, motivation approaches; Leadership – basic model of leadership, basic leadership theories and approaches; Groups in the organization – types of groups, characteristics of the groups, management of conflicts; Controlling-essence, types of control, controlling methods; Management effectiveness - essence, time-management, management of stress.

PREREQUISITES:none.

TEACHING METHODS: Lectures with slides and topic discussions; Seminars with tests and business games and lab work including group case study discussions.

METHOD OF ASSESSMENT: Final result from one mid-term control test(20%) and a Final written exam (80%)

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY:
1.Иван Иванов, Основи на мениджмънта, Макрос 2000, Пловдив, 2003 г; 2. Марияна Кузманова и Матилда Александрова, Мениджмънт. Теория и практика, Издателство "Везни-4", ISBN 9789549977578, 2018 г., 3. Анастасия Станчева, Организация на управлението, Издателство Стено, ISBN 9789544497606, 2014 г; 4.Тодор Танев, Симеон Петров, Теория на управлението в публичната сфера, Университетско издателство „Св. Климент Охридски“, ISBN: 9789540750620, 2020 г.; 5. Stephen P. Robbins, David A. DeCenzo, Mary Coulter; Fundamentals of Management: essential concepts and applications; Pearson Education, Inc., 2013; 6. Tony Morden, Principles of Management, Routledge, 2021; 7. Olha Mezentseva, Maksym Bezpartochnyi and Valentina Marchenko, Fundamentals of Management for Enterprises. Textbook for beginners, VUZF University of Finance, Business and Entrepreneurship Publishing House ―St. Grigorii Bogoslov, 2020.

DESCRIPTION OF THE COURSE

Name of the course: **Production Engineering**	Code: **BpIM03**	Semester: **4**
Type of teaching: Lectures (L) Laboratory work (LW))	Hours per semester: L – 45 hours LW – 30 hours	Number of credits: 6
Course project (CP)	Code: **BpIM06**	Number of credits: **2**

LECTURER(S):
Prof. Valentina Nikolova-Alexieva, PhD, tel.: 0885 69 66 69, email: valentina_nikolova@abv.bg
Assist. Prof. Eng. Tanya Gigova, PhD (FME), tel.: 659 717, e-mail: gigova@tu-plovdiv.bg
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialty Industrial Management, Professional orientation 5.13 General Engineering.

AIMS AND OBJECTIVES OF THE COURSE: Students broaden, enhance and further their knowledge on the theoretical bases of engineering, deal with specific management issues in production organization in terms of space and time, organizational forms and the limits of their application, acquire personal practical skills for defining and solving various engineering issues.

DESCRIPTION OF THE COURSE: The main topics concern: : Introduction into Production engineering; Basic theoretical and methodological issues in PE research; Production and Production Process in the industrial enterprise; Basic principles of production and production processes organization; Organization of production processes in terms of space and time; Type of production; Organization of production infrastructure; Engineering of production processes; Forms of production organization, etc.

PREREQUISITES: Basic knowledge of Economics, Humanities, Mathematics, Engineering, as well as of technical and technological subjects.

TEACHING METHODS: Audio-, video- and multimedia-aided lectures and lab work. Active teaching methods.

METHOD OF ASSESSMENT: Written exam with tests (80 %), laboratory works (20%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY:
1. Dakov I. Organization of production and operating systems: organization of production. Technical University of Sofia, Sofia, 2014, ISBN 978-619-167-137-3; 2. Enimanev K. Organization and Management of Industrial Production: Production Management and Engineering. Primax, Ruse, 2018, ISBN 978-619-7242-49-2; 3. Gigova T. Production Engineering Exercise Guide (Engineering 1). Imeon, Plovdiv, 2012, ISBN 978-954-9449-62-4; 4. Dakov I., Lefterova T. Guide to exercises and coursework on discipline Organization of production and operating systems (Production Engineering). Technical University of Sofia, Sofia, 2018, ISBN 978-619-167-326-1.

DESCRIPTION OF THE COURSE

Name of the course: **Marketing**	Code: **BpIM04**	Semester: 4
Type of teaching: Lectures (L) Seminars (S)	Hours per semester: L – 30 hours S – 30 hours	Number of credits: 5

LECTURER(S):
Assoc. Prof. Toni Mihova, PhD (FME), tel: 032 659 714, e-mail: expert2009@abv.bg
Assist. Prof. Elena Zlatanova-Pazheva, PhD (FME), tel.: 032 659 712,
e-mail: elyzlatanova@tu-plovdiv.bg
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialty Industrial Management, 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 marketing tools for market impact, to have basic knowledge on the marketing principles and strategies and use them to gain a market competitive advantage.

DESCRIPTION OF THE COURSE: The course covers the basic marketing concepts and principles, the elements of the marketing environment, market segmentation and positioning. The marketing concepts and the most frequently used marketing strategies in practice are considered. The applicable methods for planning and organizing marketing research, as well as the model of consumer behavior are studied. The marketing tools, expressed through product, pricing, promotion and communication policy, are considered in details. The scope of product policy includes the study of the product and the main product attributes, as well as the concept and strategies for the product life cycle. Attention is paid to innovation and service marketing. The section on pricing policy studies the main methods for pricing and basic pricing strategies. The promotion policy is presented in relation to the distribution channels and the marketing strategies for the realization of the product. The communication policy considers the communication mix of advertising and non-advertising means for influencing the market. Detailed attention is paid to Digital Marketing and the main technologies used in Internet marketing.

PREREQUISITES: Economic theories, Fundamentals of management.

TEACHING METHODS: Lectures using presentations, discussions with the active participation of students after preliminary preparation. Seminar exercises - presentation of topics developed by students, according to the educational program and discussion of cases.

METHOD OF ASSESSMENT: The method of assessment is through final assessment, which is formed by two components: Test with a coefficient of gravity 0.70 and an assessment of the work from the exercises with a coefficient of 0.30

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY:

1. Dimova, N., Marketing aspects of emotional shopping, NBU, 2013
2. Branson, R., Business of the Future, AMG Publishing 2017
3. Kaftandjiev, H., Harmony in Advertising Communication, University Publishing House "St. Kliment Ohridski ", Sofia, 2013
4. Kaftandjiev, H., Mythological Archetypes in Communications, University Publishing House "St. Kliment Ohridski ", Sofia, 2015
5. Krusteva, N., Contemporary marketing, Volume 1, Avangard Prima, Sofia, 2013

6. Krusteva, N., Contemporary marketing, Volume 2, Avangard Prima, Sofia, 2013
7. Holt, D., How brands become icons, Bookmark, Sofia, 2010
8. Klasova, S., Prices in the marketing system, University Publishing House "Economy", 2011
9. Krusteva, N., Customer Relationship Management. Sales, Avangard Prima, 2010
10. Kiberman, T., Rank № 1 in Google 2017, Franchising BG Ltd., 2016
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DESCRIPTION OF THE COURSE

Name of the course: **Industrial legislation**	Code: **BpIM05**	Semester: **4**
Type of teaching: Lectures(L) Seminars (S)	Hours per semester: L – 30hours S – 30 hours	Number of credits: **5**

LECTURER(S):
Assoc. Prof. Eng. Ivan Shopov, PhD (FMU), tel.: 0895587547,, e-mail:ivan_chopov@abv.bg
Assist. Boicho Bochev, PhD (FMU), tel.: 0895587460, e-mail: brp.p@abv.bg
Technical University of Sofia, branch Plovdiv

COURSE STATUS IN THE CURRICULUM: Compulsory facultative subject from the curriculum / curricula for training of students to obtainBachelor's degree, specialty Industrial Engineering, Professional orientation 5.13 General Engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: After completing the course, students acquire the knowledge and skills to be the basis, incentive, and starting point for improvement and deepening in certain legal areas that will allow them to succeed in their future realization, as managers in various positions.

DESCRIPTION OF THE COURSE: Main topics: theory of law, origin, essence, system of law, legal norms, subjective rights and obligations, sources of law, representation, legal regulation of property, legal acts, subject, system and sources of civil law, administrative law, industrial property, legal regime of environmental protection, contract law.

PREREQUISITES: Information and communication technologies, Internet technologies, Production technologies, Economic technologies, Fundamentals of management, Production engineering.

TEACHING METHODS: Lectures using slides, seminars with discussions, practical examples and case studies.

METHOD OF ASSESSMENT: Two one-hour written current assessments in the middle and end of the semester (62% in total), participation in seminars (38%)

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Prof. Dr. Emil Zlatarev and staff, Fundamentals of Law - Part I and II, Ciela Publishing House, ISBN: 9789542801009; 2. Fundamentals of Law, Georgi Stefanov, ed. Martilen, ISBN: 9789545981128; 3. Fundamentals of Law, Dimitar Kostov ed. Ciela, 2012. ISBN: 9546493260

DESCRIPTION OF THE COURSE

Name of the course: **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

LECTURER(S):
Assoc. Prof. Valentin Vladimirov, PhD (FEA), tel.: 032 659 646, e-mail: valdesv@tu-plovdiv.bg
Sen. Lect. Daniel Vladimdirov, PhD (FEA), tel.: 032 659 646, e-mail: danielv@tu-plovdiv.bg
Sen. Lect. Krassimir Djaldeti, PhD (FEA), tel.: 032 659 648, e-mail: krsj@tu-plovdiv.bg
Lect. Petar Doganov, PhD (FEA), tel.: 032 659 648, e-mail: pdoganov@tu-plovdiv.bg
Lect. Boris Spasov (FEA), tel.: 032 659 647, e-mail: boris_spassov@tu-plovdiv.bg
Technical University of Sofia-Branch Plovdiv

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 printed 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.

DESCRIPTION OF THE COURSE: 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 unfavourable 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 unfavourable environmental factors; develop their physical qualities and experience.

PREREQUISITES: The curricula presume 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. Туризъм и ориентиране. Методическо ръководство за студентите от ТУ София, филиал Пловдив. Издателство на ТУ - София. 2010.