DESCRIPTION OF THE COURSE

Name of the course: **Mathematics I**	Code: **MAT13**	Semester: I
Type of teaching: Lectures (L) Seminars (S)	Hours per semester: L – 30 hours S – 30 hours	Number of credits: 6

LECTURER(S):
Assoc. Prof. Vasil Petrov, PhD (FME) , tel.: 032 659 680 email: vasil_petrov@tu-plovdiv.bg
Chief Assist. Prof. Radoslava Terzieva, PhD (FME), tel.: 032 659 651, e-mail: radoslavaterzieva@tu-plovdiv.bg
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialties "Computer Systems and Technologies", 5.3 Computer and communication technique, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: Familiarization the students with basic parts of the Linear algebra, Analytic geometry, Mathematical analysis and neighbour mathematical disciplines necessary for application disciplines.

DESCRIPTION OF THE COURSE: Main topics: *Linear algebra* – Polynomials, Zeros of polynomials, Determinants, Matrices, Matrix equations, Systems of linear equations; *Analytic geometry* – Vectors, Coordinate systems, Equations of Lines and Planes, Conic Sections, general concepts of Surfaces and Surfaces of second order; *Mathematical analysis* – Numerical Sequences, Limits of Numerical Sequences, Limits and Continuity of Functions, Derivative of a Function of a Real Variable, Differential of a Function of One Variable.

PREREQUISITES: Very good training in mathematics from secondary school.

TEACHING METHODS: Lectures and Seminars.

METHOD OF ASSESSMENT: Written examination with more weight skills to solve problems.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY:

1. Апостолова М., Лекции по линейна алгебра и аналитична геометрия, София 1993 .

2. Димова В., Стянов Н., Висша математика II част, Техника, 1973.

3. Дойчинов Д., Математически анализ, Наука и изкуство, 1990

4. Доневски Б., Петров Л., Бижев Г., Линейна алгебра и аналитична геометрия, ТУ–София, 1997.

5. Топенчаров В. и колектив Сборник от задачи по висша математика, части I и II, Техника, 1977.

6. Маринов М. и колектив, Задачи за упражнения по висша математика, части I и II, 2006.

7. Колектив при ИПМИ, Линейна алгебра и аналитична геометрия, Математичен анализ I част, Модули, Печатна база ТУ–София,1992

8. Каранджулов Л., Маринов М., Славкова М., Кратък справочник по висша математика, 2007.

DESCRIPTION OF THE COURSE

Name of the course: **Physics**	Code: **PHY03**	Semester: **1**
Type of teaching: Lectures (L) Laboratory work (LW) Seminars (S)	Hours per semester: L – 30 hours S – 15 hours LW – 15 hours	Number of credits: **6**

LECTURER(S):
Chief Assist. Prof. Georgi Dobrev , PhD (FME), tel.: 032659 654, e-mail: dobrevbg@tu-plovdiv.bg
Assist. Zara Kasapeteva PhD (FME), tel.: 032659 654, e-mail: zara_kasapeteva@tu-plovdiv.bg
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory from the curriculum for training of students to obtain Bachelor's degree, specialty Computer systems and technologies, Professional orientation 5.3 Communications and Computer Engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The aim of the course of Physics is to acquaint the students with the physical phenomena and processes, the methods of their studying and the possibilities for their technical application. The obtained theoretical knowledge and practical skills are a prerequisite for development and formation of independent thinking and ability to solve a variety of real physical problems.

DESCRIPTION OF THE COURSE: The topics, included in the course of Physics comprise basic physical laws and values, describing the most general properties of matter from the point of view of classical mechanics. The content of the course is organized in the following chapters: Mechanics, Molecular physics, Thermodynamics, Electrostatics, Electric current, Electromagnetism, Vibrations, Waves in an elastic medium, Acoustics, Geometric and wave optics, Quantum properties of matter, Atomic physics. The main physical laws are considered by means of using classical models, allowing for accurate description of real processes. Computer technique along with information technologies are used where needed in combination with appropriate measurement devices. The use of the international measurement system SI is indispensable and compulsory part of the course. The basic knowledge given by this course is further needed both for the specialized courses and for the professional preparation of the students.

PREREQUISITES: Prerequisites for successful mastering the material in the course of Physics - are good knowledge of the material in Physics and Mathematics form secondary school and certain elements from the courses in Mathematics (Calculus).

TEACHING METHODS: Lectures for acquaintance with the theoretical material, laboratory work for obtaining practical skills, as well as for systematization and processing of the measurement results. The seminary exercises help to apply theoretical knowledge to solve specific tasks (only for students majoring in Mechatronics).

METHOD OF ASSESSMENT: Written examination (test), complex assessment made up of 80% from the test result and 20% from the performance during laboratory work and seminar exercises.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. И.П. Илиев. Физика (I и II част). Издателство „Екс-прес“, 2018; 2. И.П. Илиев. 144 решени задачи по физика. Издателство „Екс-прес“, 2018; 3. Савалев И.В “Курс по обща физика” I,II,III т. изд. “Наука”, Москва 1973 г.; 4. С.Йорданов, Физика 1. ЕКС-ПРЕС,2006; 5. И.Вълков, Физика в “Задачи I”, “Макрос” Пловдив, 2012; 6. И.Вълков, Е.Георджева и др.

“Лабораторен практикум по физика “ЕКС-Прес”, Габрово, 2010; 7. Д.Христозов и др., Лабораторен практикум по физика, изд. Наука и изкуство, 1990; 8. Т.Трофимова. Курс по физика. Изд. На СУ“Кл.Охридски” 1995; 9. М.Максимов. Основи на физиката. Част 1,2 София 2000; 10.С.Дамянов. Сборник от задачи по физика.Изд.“Наука и изкуство“ София 1987; 11. Савалев И.В “Курс по обща физика” I,II,III т. изд. “Наука”, Москва 1973 г.; 12. С.Йорданов, Физика 1. ЕКС-ПРЕС,2006; 13. И.Вълков, Физика в “Задачи I”, “Макрос” Пловдив, 2012; 14. Д.Христозов и др., Лабораторен практикум по физика, изд. Наука и изкуство, 1990; 15. Н.Илков, С.Николов, Физика част 1, София, 2003.

DESCRIPTION OF THE COURSE

Name of the course: **Introduction to Programming**	Code: **CCE01**	Semester: **1**
Type of teaching: Lectures (L) Seminar (S) Laboratory work (LW)	Hours per semester: L – 30 hours S – 15 hours LW – 30 hours	Number of credits: **7**

LECTURER(S):
Assoc. Prof. Eng. Nikolay Kakanakov, PhD (FEA), tel.: 032 659 758, e-mail: kakanak@tu-plovdiv.bg
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 Computer System and Technologies, Professional orientation 5.3 Communication and Computer Equipment, Field 5 Technical Sciences..

AIMS AND OBJECTIVES OF THE COURSE: Students are introduced to the basics of computer design and operation, as well as to the algorithms, data structures and the programming language C.

DESCRIPTION OF THE COURSE: The main topics concern: The computer system – a toll for information processing and storage; Computers classification; Information carriers in the computer systems; Information representation, storage and transmission in the computer; Elements of computer architecture and operation; Data, algorithms and programs; Programming languages; Data structures; Algorithmic elements in the languages; Translation; Software classification.

PREREQUISITES: No.

TEACHING METHODS: Lectures with traditional and electronic tools for teaching; seminars; laboratory exercises with reports. All teaching forms are adapted for attended and distant teaching.

METHOD OF ASSESSMENT: This course ends with a final exam, consisting of open and closed test questions and programming task. The overall grade is an aggregation of the exam grade (60%), the seminars' grades (20%) and the lab-works' grades (20%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Богданов, Д. и др. Език за програмиране С. София, Техника, 2003. ISBN 954-03-0510-1; 2. Наков, Преслав, Панайот Добриков, Програмиране = ++ Алгоритми, ТорТеам Со., София, 2002, ISBN 954-8905-06-X..

DESCRIPTION OF THE COURSE

Name of the course: **Fundamentals of Engineering Design**	Code: **ENG04**	Semester: **1**
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 30 hours S –15 hours LW – 30 hours	Number of credits: **7**

LECTURER(S):
Assoc. Prof. Eng. Boryana Pachedjieva, PhD (FEA), tel.: 659708, e-mail: pachedjieva@tu-plovdiv.bg
Assist. Prof. Eng. Ilia Petrov, PhD (FEA), tel.: 659 718, e-mail: iedu@abv.bg
Assist. Prof. Eng. Ivan Maradzhiev, PhD (FEA), tel.: 659 776, e-mail: iv_mar@tu-plovdiv.bg

Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum of students to obtain Bachelor's degree, specialty Computer Systems and Technologies, Professional orientation 5.3. Communication and Computer Equipment, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The aim of the course is to provide students with basic knowledge of the engineering design process and contemporary approaches and means for design, documentation and presentation of engineering solutions with a focus on computer subjects

DESCRIPTION OF THE COURSE: The main topics concern: The main topics concern: Design process – nature and structure of design process; Design and documentation of process – electrical diagrams, classification, application, general and specific requirements for their preparation; Documents for the purposes of product's life cycle – design, technological, operating and service documentation; CAD – basic functions, features and characteristics for creating electrical diagrams and PCB design; of CAD for computer modelling of part and creating drawings. Course work is implemented in CAD.

PREREQUISITES: Basic knowledge on using computers is necessary.

TEACHING METHODS: Lectures, using slides, laboratory work, work in teams, protocols description preparation and defence.

METHOD OF ASSESSMENT: Two one-hour assessments at mid and end of semester (80%), laboratories (20%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Лепаров М., М.Вичева, .Георгиев.Основи на инженерното проектиране, С., Софттрейд, 2008. 2. Ганева Н., М. Лепаров, Г. Станчев. Основи на инженерното проектиране - ръководство за упражнения, С., Софттрейд, 2010. 3. https://www.ourpcb.com/kicad-tutorial.html; 4. https://startingelectronics.org/beginners/draw-circuit-KiCad/

DESCRIPTION OF THE COURSE

Course Title: **Foreign Language I**	Code: **LNG11**	Semester: **1**
Type of teaching: Seminars (S)	Hours per semester: S – 30 hours	Number of credits: **3**

LECTURERS:	**Telephone:**	**E-mail:**
Sen. Lect. Konstantina Nyagolova (FME, English)	0887276513	konstantinanik@yahoo.com
Sen. Lect. Nadya Popova (FME, English)	659 707	popovanadia@yahoo.com
Sen. Lect. Anet Arabadjieva (FME, English)	0892231353	anet2003@abv.bg
Sen. Lect. Nadezhda Geshanova (FME, English)	0889314932	geshanova@tu-plovdiv.bg
Sen. Lect. Dr Daniela Valeva (FME, English)	0897899039	daniela.valeva89@gmail.com

COURSE STATUS IN THE CURRICULUM: Compulsory course in the curriculum of the ***Bachelor Degree Programme in Computer Systems and Technologies***, Professional qualification 5.3 Communications and Computer Technologies, Professional field 5 Technical Sciences.

COURSE OBJECTIVES: The course is targeted at further developing of students' language knowledge and practical skills in their specific professional field.

COURSE DESCRIPTION: The course is taught at language levels determined through placement tests, based on the principal foreign language studied at secondary school. No absolute beginner groups are formed. The course focuses on the further development of the four language skills in the domain of the students' major subject *Computer systems and technologies,*

PREREQUISITES: The minimum of language knowledge and skills acquired at secondary school.

TEACHING METHODS: Seminars targeted at further development of the four language skills through individual and team work using audio and video, as well as multimedia.

METHOD OF ASSESSMENT: Evaluation is based on continuous assessment and students get a grade at the end of the semester.

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY:

1. *Basic English for Computing, Eric H. Glendinning, John McEwan, Oxford University Press*
2. *English for Computing, Keith Boeckner, P. Charles Brown, Oxford University Press*
3. *Oxford English for Information Technology, Erich H. Glendinning, John McEwan, OUP*
4. *Cambridge Professional English in Use for Computers and the Internet, Santiago Remacha Esteras, Elena Marco Fabre, Cambridge University Press*

Check Your Vocabulary for: Computing, David Riley, Peter Collin Publishing Ltd

DESCRIPTION OF THE COURSE

Name of the course: **Sports**	Code: **SPR01**	Semester: **1**
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):
Sen. Lect. Daniel Vladimdirov, PhD (FEA), tel.: 032 659 646, e-mail: danielv@tu-plovdiv.bg
Sen. Lect. Petar Doganov, PhD (FEA), tel.: 032 659 648, e-mail: pdoganov@tu-plovdiv.bg
Sen. Lect. Boris Spasov, PhD (FEA), tel.: 032 659 647, e-mail: boris_spassov@tu-plovdiv.bg
Technical University of Sofia-Branch Plovdiv
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialties "Computer Systems and Technologies", 5.3 Computer and communication technique, 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 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. 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: **Professional orientation in ICT**	Code: **FaBpCST01**	Semester: **1**
Type of teaching: Lectures (L)	Hours per semester: L – 15 hours	Number of credits: **1**

LECTURER(S):

Head of department and a team of lecturers (CST, FEA)

Technical University of Sofia Plovdiv branch

COURSE STATUS IN THE CURRICULUM: Facultative subject from the curriculum / curricula for training of students to obtain Bachelor's degree, specialty Computer systems and technologies, Professional orientation 5.3 Communications and computer engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: Introducing the students to the objectives of the specialty and meeting them with representatives of the business.

DESCRIPTION OF THE COURSE: The main objective is to help students to understand the idea of the higher education and the potential career that they will be able to apply after graduation.

PREREQUISITES: None.

TEACHING METHODS: Lectures, using slides, and discussions.

METHOD OF ASSESSMENT: Accept/reject

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: None

DESCRIPTION OF THE COURSE

Name of the course: **Mathematics II**	Code: **MAT22**	Semester: **2**
Type of teaching: Lectures (L) Seminars (S)	Hours per semester: L – 30 hours S – 30 hours	Number of credits: **6**

LECTURER(S):
Assoc. Prof. Vasil Petrov, PhD (FME) , tel.: 032 659 680 email: vasil_petrov@tu-plovdiv.bg
Chief Assist. Prof. Radka Koleva PhD (FME), tel.: 032 659 651, e-mail: rkoleva@tu-plovdiv.bg
Chief Assist. Prof. Radoslava Terzieva, PhD (FME), tel.: 032 659 651, e-mail: radoslavaterzieva@tu-plovdiv.bg
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialties "Computer Systems and Technologies", 5.3 Computer and communication technique, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: Familiarization the students with basic parts of the mathematical analysis and neighbour mathematical disciplines necessary for application disciplines.

DESCRIPTION OF THE COURSE: Main topics: Indefinite integral, Definite integral and Applications, Improper integral; Ordinary differential equations with separable variables. Basic types first order ODE; Linear differential equations from second and higher order with constant coefficients; Functions of two and more variables – limit of the function, partial derivatives, differential Differentiating of composite and implicit function. Derivatives from second and higher order. Taylor's formula; Extremum of functions of two and more variables; Double, triple, linear integrals and integrals on surface. Green, Stokes and Gauss formulae.

PREREQUISITES: Very good training in Mathematics I (MAT13).

TEACHING METHODS: Lectures and Seminars.

METHOD OF ASSESSMENT: Written examination.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY:

1. Колектив на ИПМИ, Висша математика, части II и III, Техника, 1986.
2. Колектив на ИПМИ, Избрани глави от математиката, Модули I – V, Печатна база ТУ–София, 1993.
3. Колектив на ИПМИ, Сборник от задачи по висша математика, части II и III, Техника, 1979.
4. Дойчинов Д., Математически анализ, София, 1994.
5. Топенчаров В. и колектив, Сборник от задачи по висша математика, части I и II, Техника, 1977.
6. Маринов М. и колектив, Задачи по висша математика, части I и II, 2006.
7. Каранджулов Л. И., М. Маринов, М. Славкова, Кратък справочник по висша математика, 2007.

DESCRIPTION OF THE COURSE

Name of the course: **Material science**	Code: **ENG05**	Semester: **2**
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S)	Hours per semester: L – 30 hours S – 0 hours LW – 30 hours	Number of credits: **6**

LECTURER(S):
Assoc. Prof. Eng. Stanimir Stefanov, PhD (FEA), tel.: 032659512, e-mail: glasst@tu-plovdiv.bg
Assoc. Prof., PhD. Marin Genchev Genchev, tel.: 032 659 512, email: marin2g@tu-plovdiv.bg
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory course from the curriculum for training students for Bachelor's degree, specialty "Computer Systems and Technologies", professional field 5.3 Communication and computer equipment, field 5. Technical Sciences 5.

AIMS AND OBJECTIVES OF THE COURSE: The aim of the course is to introduce students to the methods and tools for measuring the characteristics of the types of electrical materials in accordance with the requirements of BDS and relevant international standards. Methods for quality control and reliability of insulation systems.

DESCRIPTION OF THE COURSE: The subject Materials science presents the behavior of the various types electrical engineering materials in the electrical and magnetic field and the processes taking place within them.

PREREQUISITES: Mathematics, Physics, Chemistry.

TEACHING METHODS: Lectures, using slides, case studies, laboratory work whit protocols and defence.

METHOD OF ASSESSMENT: Written exam at the end of the semester (70%), laboratory work (20%) end the pparticipation in lectures (10%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY:
1. Генчев М., Електротехнически материали, електронен учебник, ISBN 978-954-2937-07-4, e-book, http://elrn.tu-plovdiv.bg/microsoftclasserver, 2010; 2. Генчев М. Електроматериалознание, учебник , ISBN 978-954-8779-99-9 , Дъга принт ООД, Пловдив, 2011; 3. Генчев М. Ръководство за лабораторни упражнения по електроматериалознание, ISBN 978-954-8779-98-2, Дъга принт ООД , Пловдив, 2011; 4. Тодорова А., Г. Дюстабанов, М. Генчев, Ръководство по материалознание, ISBN 954-438-102-3, Издателство на ТУ София, 1994; 5. Генчев М., Ръководство за лабораторни упражнения по електротехнически материали, електронен учебник , ISBN 978-954-2937-06-7, e-book , http://elrn.tu-plovdiv.bg/microsoftclasserver, 2009.

DESCRIPTION OF THE COURSE

Name of the course: **Fundamentals of Programming Languages**	Code: **CCE02**	Semester: **2**
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S)	Hours per semester: L – 30 hours S – 15 hours LW – 30 hours	Number of credits: **6**

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 "Computer systems and technologies", Professional orientation 5.3 Communication and computer equipment, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The aim for the students is to learn and be able to apply the approaches, methods and technical means and the basic principles of a structured approach in programming. At the end of the course the students will: be acquainted with the principles of work of the pre-processor; know how to create, maintain and process binary and text files; know the principles of creating and using new types in C language; have knowledge of programming at a low level - working with individual bits and inclusion of assembly language programs; know the principles of working with data structures for the realization of basic algorithms in programming.

DESCRIPTION OF THE COURSE: The main topics concern: C pre-processor. C Program structure. Inclusion of files. Macros and functions. Conditional compilation. Pointers. String search algorithms. Working with dynamic data. Dynamic one-dimensional arrays, arrays of pointers. Sort arrays of strings. Build a dictionary. Recursion. Recursion and iteration. Extended work with structures and union. Working with binaries. Separate compilation. Data structures. Static and dynamic implementation of basic algorithms - stack, queue, single-linked lists. Concept of trees and graphs. Low level programming. Bitwise operations. Household fields. Low level programming. Concept of assembler. Building an interface for including an assembly program in C, etc.

PREREQUISITES: Introduction to programming.

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.P. Nakov, P. Dobrikov, Programming = ++ Algorithms ;, Top Team Co, Sofia, 2002. 2. P. Nakov, Fundamentals of Computer Algorithms, Top Team Co, Sofia, 1998. 3. Nicklaus Wirth, Algorithms + Structures of data = programs, Technique, Sofia, 1980. 4. B. Kernigan, D. Richie, Programming language C, Prentice Hall, 2002.

DESCRIPTION OF THE COURSE

Name of the course: **Electrical Engineering**	Code: **EEA24**	Semester: **2**
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 30 hours S – 15 hours LW – 30 hours	Number of credits: **6**

LECTURER(S):
Assoc. Prof. Eng. Nikola Georgiev PhD (FEA), tel.:659581, e-mail:nikola.georgiev@tu-plovdiv.bg
Principal Assistant Eng. Vasilina Zlatanova PhD (FEA), tel.: 659535, e-mail: w_zlatanova@tu-plovdiv.bg
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject in the curriculum for the major of computer systems and technologies of the Electrical Engineering and Automation Faculty, full-time and part-time students, Bachelor of science.

AIMS AND OBJECTIVES OF THE COURSE: Electrical Engineering is a fundamental subject and introduces the basic laws and phenomena of electromagnetism and the approaches applied to describe the processes in linear and nonlinear electric and magnetic circuits and with the methods of analysis on these processes in constant, stationary and unfixed modes.

DESCRIPTION OF THE COURSE: The subject aims at introducing students to the electromagnetic theory; the laws applied in analysis on electric and magnetic circuits, and investigation of sinusoid fixed modes, equivalent transformations; methods and theorems of analysis on linear electric circuits; resonance phenomena; linear electric circuits with inductive connections; research on periodic non-sinusoid modes in linear electric circuits; passive and active quadripolars; circuits with distributed parameters.

PREREQUISITES: The course of lectures and seminars is based on students' knowledge of Mathematics and Physics.

TEACHING METHODS: Lectures, using slides, case studies, laboratory and course work, work in teams, protocols and course work description preparation and defence.

METHOD OF ASSESSMENT: Current assessment (70%) and two assignments (30%).

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY:
1.Генов Л., Теоретични основи на електротехниката, София, Техника, 1991; 2. Фархи С., С. Папазов. Теоретична електротехника, ч.1, Техника, С., 1990; 3. Георгиев Н.,Теоретична електротехника, Пловдив, Макрос, 2015; 4.Георгиев Н., В. Кирчев, Ръководство за семинарни упражнения по теоретична електротехника. ТУ София, филиал Пловдив, 2012; 5.Георгиев Н., В. Кирчев, Ръководство за лабораторни упражнения по теоретична електротехника. ТУ София, филиал Пловдив, 2008.

DESCRIPTION OF THE COURSE

Course Title: **Foreign Language II**	Code: **LNG12**	Semester: **2**
Type of teaching: Seminars (S)	Hours per semester: S – 30 hours	Брой кредити: **3**

LECTURERS:	**Telephone:**	**E-mail:**
Sen. Lect. Konstantina Nyagolova (FME, English)	0887276513	konstantinanik@yahoo.com
Sen. Lect. Nadya Popova (FME, English)	659 707	popovanadia@yahoo.com
Sen. Lect. Anet Arabadjieva (FME, English)	0892231353	anet2003@abv.bg
Sen. Lect. Nadezhda Geshanova (FME, English)	0889314932	geshanova@tu-plovdiv.bg
Sen. Lect. Dr Daniela Valeva (FME, English)	0897899039	daniela.valeva89@gmail.com

COURSE STATUS IN THE CURRICULUM: Compulsory course in the curriculum of the ***Bachelor Degree Programme in Computer Systems and Technologies***, Professional qualification 5.3 Communications and Computer Technologies, Professional field 5 Technical Sciences.

COURSE OBJECTIVES: The course is targeted at further developing of students' language knowledge and practical skills in their specific professional field.

COURSE DESCRIPTION: The course is taught at language levels determined through placement tests, based on the compulsory foreign language course taken in Semester 1 at TU – Sofia. No absolute beginner groups are formed. The course focuses on the further development of the four language skills in the domain of the students' major subject *Computer systems and technologies,*

PREREQUISITES: Completed compulsory foreign language course **LNG11** in Semester 1.

TEACHING METHODS: Seminars targeted at further development of the four language skills through individual and team work using audio and video, as well as multimedia.

METHOD OF ASSESSMENT: Evaluation is based on continuous assessment and students get a grade at the end of the semester.

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY:

1. *Basic English for Computing, Eric H. Glendinning, John McEwan, Oxford University Press*
2. *English for Computing, Keith Boeckner, P. Charles Brown, Oxford University Press*
3. *Oxford English for Information Technology, Erich H. Glendinning, John McEwan, OUP*
4. *Cambridge Professional English in Use for Computers and the Internet, Santiago Remacha Esteras, Elena Marco Fabre, Cambridge University Press*
5. *Check Your Vocabulary for: Computing, David Riley, Peter Collin Publishing Ltd*

DESCRIPTION OF THE COURSE

Name of the course: **Practicum**	Code: **PRC01**	Semester: **2**
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 0 hours S – 0 hours LW – 0 hours	Number of credits: **2**

LECTURER(S):
Assoc. Prof. Eng. Nikolay Kakanakov, PhD (FEET), tel.: 659 765, e-mail: kakanak@tu-plovdiv.bg
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 Computer systems and technologies, Professional orientation 5.3 Communications and computer engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: After completing the course, the students should acquire knowledge and skills about the methods, tools and computer technologies using electronic development modules and developing electronic documentation as parts of their work on projects.

DESCRIPTION OF THE COURSE: Main topics: Electronic documents. Computer fonts. File formats. Images/illustrations and text as information sources. Phases of converting and editing text and images during the publishing process. Conventional and innovative electronic publishing technologies. Electronic document management systems (eDMS). "Online"/web e-publishing technologies. Spreadsheets ans electronic presentations and their applications in the engineering process. Software for electronic document publishing and presentations – functions and applications. Open-source hardware (OSHW) design and implementation. Embedded developmnet platform Arduino. Arduino-based embedded applications.

PREREQUISITES: Introduction to Programming, Fundamentals of Engineering Design

TEACHING METHODS: Task for individual work

METHOD OF ASSESSMENT: Demonstration and defense of the work.

INSTRUCTION LANGUAGE: Bulgarian

BIBLIOGRAPHY: 1. Michael Margolis, „Arduino Cookbook", O`Reilly Media 2012, ISBN: 978-1-449-31387-6; Simon Monk, „30 Arduino Projects for the Evil Genius", McGraw-Hill 2010, ISBN: 978-0-07-174134-7; Maik Schmidt, „Arduino: A quick start guide", Pragmatic programmers 2011, ISBN-10: 1-934356-66-2; Matthew Scarpio, „Designing Circuit Boards with EAGLE; Make High-Quality PCBs at Low Cost", Prentice Hall 2014, ISBN-13: 9780133819991; Soldering and Mounting Techniques, Reference manual, SCILLC 2012 – http://www.onsemi.com

DESCRIPTION OF THE COURSE

Name of the course: **Sports**	Code: **SPR02**	Semester: 2
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):
Sen. Lect. Daniel Vladimdirov, PhD (FEA), tel.: 032 659 646, e-mail: danielv@tu-plovdiv.bg
Sen. Lect. Petar Doganov, PhD (FEA), tel.: 032 659 648, e-mail: pdoganov@tu-plovdiv.bg
Sen. Lect. Boris Spasov, PhD (FEA), tel.: 032 659 647, e-mail: boris_spassov@tu-plovdiv.bg
Technical University of Sofia-Branch Plovdiv
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curriculum for training of students to obtain Bachelor's degree, specialties "Computer Systems and Technologies", 5.3 Computer and communication technique, 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 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. Туризъм и ориентиране. Методическо ръководство за студентите от ТУ София, филиал Пловдив. Издателство на ТУ - София. 2010.