**DESCRIPTION OF THE COURSE**

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|---|---|---|
| Name of the course:<br>**Introduction into subject** | Code: **BE01** | Semester**: I** |
| Type of teaching:<br>**Lectures** | Lessons per week:<br>**L – 1 hour** | Number of credits: **0** |

**LECTURERS**:

Head of the Department and team of lecturers of Department of Electronics (FEA),

TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**:
Compulsory for the students specialty "Electronics" BEng programme of FEA.

**AIMS AND OBJECTIVES OF THE COURSE:**. The course introduces the first year students to the course in order to help them adapt to university education.

**DESCRIPTION OF THE COURSE:**
Topics related to the possibilities for professional realization after graduating the Bachelor Degree course in Electronics are being discussed. Students are being introduced to the organization of the faculty, departments, education, administrative services, scientific and educational directions of each faculty department. Meetings with companies from the field of Electronics are being organized.

**PREREQUISITES**. None.

**TEACHING METHODS**: Lectures.

**METHOD OF ASSESSMENT:** No exam.

**INSTRUCTION LANGUAGE:** Bulgarian
**BIBLIOGRAPHY:** None

**DESCRIPTION OF THE COURSE**

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|---|---|---|
| Name of the course: **Mathematics I** | Code: **FBE02** | Semester: **I** |
| Type of teaching: **Lectures, Seminars** | Lessons per week: **L – 3 hours, S – 2 hours** | Number of credits: **7** |

**LECTURERS**:

Assist. Prof. PhD Albena Pavlova, Department of Mathematics, Physics and Chemistry (FME), tel.: +359 32 659 678, e-mail: akosseva@gmail.com, TU-Sofia, branch Plovdiv

**STATUS OF THE DISCIPLINE IN THE CURRICULUM:** Mandatory discipline for specialty "Electronics".

**COURSE OBJECTIVES**: Familiarization of students with basic questions in linear and Higher algebra, analytic geometry in the plane and in the space, the mathematical analysis necessary for application disciplines and subsequent mathematical disciplines.

**COURSE DESCRIPTION:** Main topics: polynomials, actions with polynomials, zeros of polynomials. Horner's rule and applications. Rational functions. Decomposition of fractional rational function of the sum of elementary fractions. Determinants – properties. Minors and cofactors. Laplace theorem. Matrices, operations with matrices, elementary transformations, rank, inverse matrix, matrix equations. Curves from 2nd degree: circle, ellipse, parabola, hyperbola. Tangents. Remarkable curves. Surfaces from 2nd degree. Sphere, ellipsoid, hyperboloid, paraboloid, cone, cylindrical and rotating surfaces. Familiarization of students with basic mathematical analysis questions: limits, continuity, derivative and a differential of a function, the study of functions and applications. An indefinite integral, definite integral, Newton-Leibniz formula for calculation. Improper integrals.

**PREREQUISITES:** Good training in mathematics from secondary school.

**TEACHING METHODS:** Lectures and tutorials.

**METHOD OF ASSESSMENT:** Written exam with greater severity of problem-solving skills.

**INSTRUCTION LANGUAGE:** Bulgarian

**BIBLIOGRAPHY:**

1. Димова В.,Стоянов Н., Висша математика I и II част, Техника, 1973.
2. Доневски Б., Л. Петров, Г. Бижев, Линейна алгебра и аналитична геометрия, ТУ-София, 1997.
3. Топенчаров В. и колектив, Сборник от задачи по висша математика, част I, II, Техника, 1977.
4. Каранджулов Л., М. Маринов, М. Славкова, Справочник по висша математика I част, 2005.
5. Маринов М. и колектив, Задачи за упражнения по висша математика I, II, 2006.
6. Филипова Л., Математика I, ЕТ ”Блаком– Благой Благоев”, 2012.
7. Петрушев Л., Кратък курс по ЛААГ, ТУ-София, 1991.
8. Колектив при ИПМИ, Линейна алгебра и аналитична геометрия, Математичен анализ I част, Модули, Печатна база ТУ-София, 1992.
9. Л. Каранджулов, М. Маринов, М. Славкова, Кратък справочник по висша математика, 2007.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course<br>**Physics I** | Code: **FBE03** | Semester: **I** |
| Type of teaching:<br>**Lectures and laboratory work** | Lessons per week:<br>**L – 2 hours,**<br>**LW – 1 hour** | Number of credits: **5** |

**LECTURER**: Assoc. Prof. DSc Iliycho Iliev, Department of Mathematics, Physics and Chemistry (FME), tel.: +359 32 659 673, email: iliev55@abv.bg , TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**: The class is compulsory for students of "Electronics" from the Bachelor' program of higher education.

**AIMS AND OBJECTIVES OF THE CLASS:** The aim of the class is to teach scientific knowledge in the field of natural sciences, familiarization with the main laws and terminology of contemporary physics. It must teach experimental and theoretical knowledge and skills with the goal of mastering the main tendencies of scientific progress.

**DESCRIPTION OF THE CLASS:** Basic topics: Physical quantities and systems of physical quantities, Kinematics and dynamics of particle, Work and energy, Mechanics of rigid body, Forces in nature – gravity, electrostatic and magnetic field, Electric current, Electromagnetic induction, Special Relativity Theory, Motion of particles in field, Mechanics of fluids, Molecule Physics – essential terms, Classical statistical physics, Elements of thermodynamics, Real gas, Crystal state, Physics of liquids, liquid crystal and amorphous state, Solutions, Diffusion, Thermal conductivity, Vacuum, Dielectric in electrostatic field, Phenomena in non-center-symmetric dielectrics, Matter in magnetic field, Phenomena in ferromagnetics and ferromagnetics.

**PREREQUISITES:** Mathematics and Physics from secondary school.

**TEACHING METHODS**: Lectures and laboratory work which uses individual protection protocols.

**METHOD OF ASSESSMENT:** Written exam (test) at the end of the semester (80%), laboratory work (20%).

**INSTRUCTION LANGUAGE:** Bulgarian

**BIBLIOGRAPHY:**


1. Илиев Ил., Физика (I и II част), Учебник, Издателство „Екс-Прес", Габрово, 2013.
2. Илиев Ил., 144 решени задачи по физика, Учебно пособие, Издателство „Екс-Прес", Габрово, 2013.
3. Вълков Ив., Ек. Георджева, Ив. Иванов, Ил. Илиев, Хр. Карапанов, Лабораторен практикум по физика, Учебно пособие, Издателство „Екс-Прес", Габрово, 2013.
4. Михайлова В., Основи на физиката, SIELA, 2011.
5. Детлаф А., Б. Аворский, Курс Физики, Высшая школа, Москва,1989.
6. Трофимова. Т, Курс Физики. Высшая школа, Москва,1989.
7. Савельев И., Курс общей физики, том 1, 2 и 3, Наука, Москва, 1986/1988.
8. Максимов М., Основи на физиката, ч. I и II, Булвест 2000, София, 2008.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course:<br>**Chemistry** | Code: **FBE04** | Semester: **I** |
| Type of teaching:<br>**Lectures,**<br>**Laboratory work** | Hours for week:<br>**L- 1 hour,**<br>**LW - 1 hour** | Number of credits: **4** |

**LECTURER**:

Assist. Prof. PhD Kalina Kamarska, Department of Mathematics, Physics and Chemistry (FME), tel.: +359 32 659 672, TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**: Compulsory subject for full-time students in the curriculum in the major Electronics from the bachelor's degree.

**AIMS AND OBJECTIVES OF THE COURSE**: To give basic knowledge about construction materials - metals, their alloys, polymers and other composites, by showing the relationship between the chemical composition, structure and properties. To study general regularities in the electrochemical and chemical conduct of metals in relation to the corrosion problem and its resolve. To provide theoretical and technological knowledge of basic chemical and electrochemical processes used in electronics and electrical engineering.

**DESCRIPTION OF THE COURSE**: The main chemical and physical properties of metals are discussed. Theoretical knowledge of electrochemical systems – electrode, electrolytic cell and galvanic cell are given. Students learn the theory of electrode potential and electrolysis processes, the kinetics of electrode reactions, and electrode over potential. Presented are the modern electrochemical sources of electric power (primary cells, batteries and fuel cells). An essential part of the course focuses on the mechanisms of corrosion processes and factors affecting their conduct, and the main methods and technologies for corrosion protection. This includes the basic knowledge of polymers - polymerization and polycondensation products, elastomers and inorganic polymers. The chemical composition, structure and properties of composite materials based on them – plastics, rubber composites, technical ceramics and cermets are studied.

**PREREQUISITES**: The course is based on the knowledge of chemistry from the secondary school.

**TEACHING METHODS**: Lectures and laboratory works.

**METHOD OF ASSESSMENT**: Written exam.

**INSTRUCTION LANGUAGE**: Bulgarian

**BIBLIOGRAPHY:**

1. Велева М., П. Копчев, К. Обрешков. Химия, Наука и изкуство, София, 1987.
2. Петров Хр., М. Енчева, Химия, Техника, София, 1994.
3. Ненов Ив., Теоретична електрохимия, Техника, София, 1991.
4. Райчев Р., Корозия и химично съпротивление на металите, Техника, София, 1988.
5. Ганчева Т., Структура и свойства на конструкционите полимерни материали, Техника, София, 1982.
6. Ганчева Т. и колектив, Ръководство за лабораторни упражнения по химия, Наука и изкуство, София, 1990.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course:<br>**Programming and Computer Application I** | Code: **FBE05** | Semester: **I** |
| Type of teaching:<br>**Lectures, Laboratory work,**<br>**Course work** | Hours for week:<br>**L- 2 hours,**<br>**LW - 2 hours** | Number of credits: **6** |

**LECTURER**:

Assist. Prof. PhD Rumyana Chukleva, Department of Computer Systems and Technologies (FEA), tel.: +359 32 659 754, e-mail: r_chukleva@abv.bg, TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**: Compulsory subject for full-time students in the curriculum in the major Electronics from the bachelor's degree.

**AIMS AND OBJECTIVES OF THE COURSE**: Students are introduced to the basics of computer design and operation, as well as to the programming of C language. The knowledge acquired during this course stays as a fundament of subsequent subjects. At the end of the course students should be able to: use in practice a popular operating system and a development environment; solve typical algorithmic and programming problem.

**DESCRIPTION OF THE COURSE**: Major topics: What is information?; The computer system – a tool for information processing; Operating systems; Solving problems by computer; Introduction to C language; Basic input-output operations; Basic information processing operations; Basic control structures; Functions; Arrays in C language; Files; N-dimentional arrays; Data Structures.

**PREREQUISITES**: Necessary knowledge of mathematics.

**TEACHING METHODS**: Lectures are based on preliminary prepared materials and slides. Labs are held in computer classrooms with appropriate software equipment.

**METHOD OF ASSESSMENT**: Two tests during the semester both with weight 0,2; one final test at the end of the semester with weight 0,5; course work exam with weight 0,1.

**INSTRUCTION LANGUAGE**: Bulgarian

**BIBLIOGRAPHY:**

1. Богданов Д. и др., език за програмиране С, Техника, София, 2003.
2. Наков Пр., П. Добриков, Програмиране = ++ Алгоритми, ТорТеам Со., София, 2002.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course:<br>**Engineering Design Fundamentals I** | Code: **FBE06** | Semester: **I** |
| Type of teaching:<br>**Lectures, Laboratory work, Semester Assignment** | Lessons per week:<br>**L – 1 hour,**<br>**LW – 2 hours** | Number of credits: **5** |

**LECTURER**:
Assoc. Prof. Dr. Eng. Pavlinka Katsarova, Department of Mechanical and Instrument Engineering (FME), tel.: +359 32 659 636, e-mail: p_katsarova@abv.bg,
TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**: Compulsory subject in the curriculum for the major "Electronics", B.Sc. programme of the Faculty of Electronics and Automation, Technical University of Sofia, branch Plovdiv.

**AIMS AND OBJECTIVES OF THE COURSE:** The course of Engineering Design Fundamentals aims at giving the students knowledge and skills necessary for composing fundamental graphic and text documents for the stages of design and the production of electrical engineering ware.

**DESCRIPTION OF THE COURSE:** Basic topics: Types of constructor's documents. Featuring the fundamental elements of space. Featuring real solids. Dimensioning. Tolerance and fittings. Featuring and marking the typical junctions. Blueprint of a mounted unit. Electrical engineering blueprints. Electrical schemes – types and implementation instructions.

**PREREQUISITES:** Required knowledge of Mathematics on the basis of which the methods of problem solving from the sphere of the technical documenting are developed.

**TEACHING METHODS**: Lectures supported by blueprints, slides, boards. Laboratory work. Course work during which particular problems from the sphere of the technical documenting are solved.

**METHOD OF ASSESSMENT:** Current mark with two written test papers.

**INSTRUCTION LANGUAGE:** Bulgarian

**BIBLIOGRAPHY:**

1. Лепаров М., М. Вичева, М. Георгиев, Техническо документиране, СОФТТРЕЙД, София, 2006.
2. Станчева В., К. Тодорова, Ръководство за упражнения по Техническо документиране, СОФТТРЕЙД, София, 2006.
3. Ганева Н., М. Лепаров, Г. Станчев, Ръководство за упражнения по Основи на инженерното проектиране, СОФТТРЕЙД, София, 2007.
4. Григоров Б., SolidWorks 2005, АДСИС, София, 2005.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course:<br>**Economics** | Code: **FBE07** | Semester: **I** |
| Type of Teaching:<br>**Lectures and Seminars** | Lessons per week:<br>**L – 2 hours,**<br>**S – 1 hour** | Number of credits: **4** |

**LECTURERS:**

Assoc. Professor PhD Vladimir Ivanov, Department of Industrial Management (FME),
tel.: +359 32 659 715; e-mail: vivanov@abv.bg, TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE SYLLABUS**: Compulsory for the students majoring in Electronics at the Faculty of Electronics and Automation, Bachelor's Degree.

**COURSE OBJECTIVES:** Furthering of studies and practical interpretation of basic economic categories and their expression, interrelation and management in the company.

**COURSE DESCRIPTION:** Main topics: Introduction into the Economy of the Company; Business environment of the company; Functioning and management of the company; Fixed capital; Assets; Premises and equipment; Staff; Expenditure and cost; Pricing; Sales; Revenues of the company; Efficiency of production activities; Investment and finance of the company; Financial planning.

**PREREQUISITES:** Basic concepts in Mathematics.

**TEACHING METHOD:** Lectures and seminar exercises; A multimedia beamer is used in lectures; computers, calculators and written assignments – in seminars.

**TESTING AND ASSESSMENT METHODS:** ongoing assessment in the form of a written test and practical problems solving, weighing in the final grade as it follows: 60% from the final test result and 40% from the completion of the practical tasks.

**LANGUAGE OF INTRUCSTION:** Bulgarian

**BIBLIOGRAPHY:**

1. Маринов Г., Велев Мл. и др., Икономика на предприемаческата дейност, София, 2003.
2. Иванов Ив. и др., Икономика на предприятието, изд. на ИУ, Варна, 2005.
3. Николов Н., Икономика на предприятието, София, 1995.
4. Търговски закон
5. Закон за счетоводство
6. Закон за ДДС
7. Закон за корпоративното подоходно облагане

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course<br>**Practice on open source platforms programming** | Code: **BE25** | Semester: **I** |
| Type of teaching:<br>**Laboratory work** | Lessons per week:<br>**LW - 2 hours** | Number of credits: **0** |

**LECTURER:**

Assist. Prof. PhD Rosen Bozhilov, Department of Electronics (FEA),
tel.: +359 32 659 764, e-mail: rossen_chi@abv.bg, TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM:**
Compulsory for the Bachelor's degree students, majoring Electronics at the Faculty of Electronic and Automation.

**AIMS AND OBJECTIVES OF THE COURSE:** The aim of the course "Practice on open source platforms programming" is to provide the students with basic knowledge of open source programming in Arduino environment. By working with not complex 8-bit Olimexino controllers, the students are introduced to the principles of control and operation of programmable devices.

**DESCRIPTION OF THE COURSE:** Each exercise starts with acquainting the students with the theoretical prerequisites for realizing the set objectives. Then practical work with Olimexino 328 controllers (based on Atmel AVR microcontroller) follows. Ready-made sample programs are used and upgraded first, and then new programs are created by the students. Various hardware extensions are added to the main controller, demonstrating the possibilities for work in an open source environment. Thus the trainees acquire practical skills and knowledge of basic electronic circuits and devices and get familiar with the options for their programming control.

**PREREQUISITES**: Basic knowledge in Informatics, Programming and Computer Application.

**TEACHING METHODS:** The laboratory work is carried out in groups of 2 or 3 students, working on the same model. All students in a group fulfill the same task, assigned by the leading lecturer.

**METHOD OF ASSESSMENT:** certification based on ongoing assessment.

**INSTRUCTION LANGUAGE**: Bulgarian

**BIBLIOGRAPHY:**

1. Brian Ev., Arduino Programming Notebook
2. Banzi, M. Getting Started with Arduino. O'Reilly Media, Inc., 2011.
3. http//www.arduino.cc
4. http//www.arduino.cc/en/Booklet/HomePage

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course: **Foreign Language I** | Code: **FBE08** | Semester: **I** |
| Type of Teaching: **Seminars** | Contact hours per week: **S – 2 hours** | Number of credits: **0** |

**LECTURERS:**

**English**

Sr. Lect. Penka Taneva-Kafelova, Department of Industrial Management (FME), tel.: +359 32 659 722; e-mail: tanneva@gmail.com, TU-Sofia, branch Plovdiv

Sr. Lect. Nadya Popova, Department of Industrial Management (FME), tel.: +359 32 659 707; e-mail: popovanadia@yahoo.com, TU-Sofia, branch Plovdiv

Sr. Lect. Konstantina Nyagolova, Department of Industrial Management (FME), tel.: +359 32 659 722; e-mail: konstantinanik@yahoo.com, TU-Sofia, branch Plovdiv

Sr. Lect. Anet Arabadjieva, Department of Industrial Management (FME), tel.: +359 32 659 707; e-mail: anet2003@abv.bg, TU-Sofia, branch Plovdiv

Lect. PhD Daniela Valeva, Department of Industrial Management (FME), tel.: +359 32 659 716; e-mail: daniela.valeva89@gmail.com, TU-Sofia, branch Plovdiv

Lect. Nadezhda Geshanova, Department of Industrial Management (FME), tel.: +359 32 659 716; e-mail: nadya_cmf@hotmail.com, TU-Sofia, branch Plovdiv

**German**

Sr. Lect. Mariana Dinkova, e-mail: mdinkova@yahoo.de

**COURSE STATUS IN THE SYLLABUS:** Compulsory for the students majoring in „Electronics" at the Faculty of Electronics and Automation, Bachelor's Degree.

**COURSE OBJECTIVES**: Targeted at further developing of students' knowledge and practical skills in the specific foreign language.

**COURSE DESCRIPTION**: The foreign language teaching is in either of two languages of equal academic status: English or German. It is carried out at the respective levels determined through placement tests, based on the principal foreign language studied at secondary school. No AB groups are formed. Apart from the general foreign language the curricula include English or German for specific purposes in accordance with students' major subject.

**PREREQUISITES:** The curricula in both languages presume the minimum of language knowledge and skills acquired at secondary school.

**TEACHING METHODS**: Seminars using modern technical equipment: language lab, audio and video, as well as multimedia.

**METHODS OF TESTING AND EVALUATION**: Evaluation is based on continuous assessment and two tests.

**LANGUAGE OF INSTRUCTION:** English/German

**LITERATURE RECOMMENDED:**

**English**

1. New Headway English, OUP
2. English for Computing, OUP
3. English for Electrical Engineering, OUP
4. English for Electrical Engineering, Alma Mater International, 2001.
5. English for Computing, Alma Mater International, 2001.
6. ProFile1 Pre-intermediate, Jon Naunton, Oxford University Press, 2005.
7. ProFile2 Intermediate, Jon Naunton, Oxford University Press, 2005.
8. Business Basics, David Grant and Robert McLarty, Oxford University Press.

9. Business Objectives, Vicki Hollett, Oxford University Press
10. Business Opportunities, Anna&Terry Phillips, Oxford University Press
11. Business Challenges, Nina O'Driscoll, Fiona Scott-Barret, Longmam
12. Quick Launch into English, Ivan Shotlekov, Penka Taneva, PUPress
13. Developing Business Contacts, OUP
14. How To Be British, Magazine, John Hoover, 1998.
15. Reader for students of Mechanical Engineering and Electronics, Plovdiv,1990.

**German**

1. Dinkova,M.:Deutsch. Ein Text- und Übungsbuch für Studierende aller Fachrichtungen an der TU Sofia, Filiale Plovdiv, Издателство на ТУ София, 1992.
2. Dinkova,M./Murdsheva,St.:Deutsch für Techniker,Алма Матер Интернационал, Габрово, 2001.
3. Becker, Norbert: Fachdeutsch Technik, Metall- und Elektroberufe, Grundbuch, Max Hueber Verlag, 1995.
4. Becker, Norbert: Fachdeutsch Technik, Metall- und Elektroberufe, Übungsheft, Max Hueber Verlag, 1996.
5. Zettl,E./Janssen,J.: Aus moderner Naturwissenschaft und Technik, Max Hueber Verlag 1987.
6. Buhlmann,R. /Fearns,A: Hinführung zur naturwissenschaftlich-technischen Fachsprache, NTF,Teil 4: Elektronik, Informatik, Max Hueber Verlag 1990.
7. Das Einsteigerseminar, PC&EDV, Grundlagen der Datenverarbeitung, BHV Verlag Düsseldorf, 1989.
8. Schiller, E.: Computerwissen für alle, Fachbuchverlag Leipzig, 1990.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Course Title:<br>**Physical Culture** | Code: **FBE09** | Semester: **I** |
| Type of Teaching:<br>**Seminars** | Contact hours per week:<br>**S – 3hours** | Number of credits: **0** |

**LECTURERS:**

Assoc. Prof. Dr. ValentinVladimirov, Department of Physical Education and Sport (FEA), tel.: +359 32 659 646, e-mail: valdesv2003@yahoo.com, TU-Sofia, branch Plovdiv

Sr. Lect. Penka Meleva, Department of Physical Education and Sport (FEA), tel.: +359 32 659 648, e-mail: penk1959@abv.bg, TU-Sofia, branch Plovdiv

Sr. Lect. Dr. Daniel Vladimirov, Department of Physical Education and Sport (FEA), tel.: +359 32 659 646, e-mail: ludarabota@abv.bg, TU-Sofia, branch Plovdiv

Sr. Lect. Dr. Krasimir Djaldeti, Department of Physical Education and Sport (FEA), tel.: +359 32 659 648, e-mail: krsj@abv.bg, TU-Sofia, branch Plovdiv

Lect. Dr. Petar Doganov, Department of Physical Education and Sport (FEA), tel.: +359 32 659 648, e-mail: , TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE SYLLABUS:** Compulsory for all students at both faculties of the Technical University of Sofia, Plovdiv Branch in their 1st and 2nd year (semesters 1, 2, 3 and 4).

**COURSE OBJECTIVES**: 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.

**METHODS OF TESTING AND EVALUATION**: Evaluation is based on functional tests at the end of semester. Lecturer's signature is required at the end of semester.

**LANGUAGE OF INSTRUCTION:** Bulgarian and English (only for foreign language students).

**LITERATURE RECOMMENDED:**

1. Владимиров В., Туризъм и ориентиране, Методическо ръководство за студентите от ТУ-София, филиал Пловдив, Издателство на ТУ – София, 2010.
2. Матикова С., Методично ръководство за начално обучение по тенис за студенти (второ преработено и допълнено издание), 2012.

# DESCRIPTION OF THE COURSE

| | | |
|---|---|---|
| Name of the course:<br>**Mathematics II** | Code: **FBE10** | Semester: **II** |
| Type of teaching:<br>**Lectures and Seminar work** | Lessons per week:<br>**L – 3 hours,**<br>**SW – 2 hours** | Number of credits: **6** |

**LECTURER:**

Assist. Prof. PhD Albena Pavlova, Department of Mathematics, Physics and Chemistry (FME), tel.: +359 32 659 678, e-mail: akosseva@gmail.com, TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**: Mandatory discipline for specialty "Electronics".

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

**DESCRIPTION OF THE COURSE:** Main topics: Ordinary differential equations with separable variables. Basic types first order ODE; Linear differential equations from second and higher order with constant and variable 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; Foundations of the differential geometry (Applications of the mathematical analysis to geometry); Series, function series and Fourier series.

**PREREQUISITES:** Very good training in mathematics from secondary school. Good training in Mathematics I.

**TEACHING METHODS**: Lectures, seminar work and tutorials.

**METHOD OF ASSESSMENT:**Written exam with greater severity of problem-solving skills.

**INSTRUCTION LANGUAGE:** Bulgarian

**BIBLIOGRAPHY:**

1. Колектив на ИПМИ, Висша математика, части II и III, Техника, София, 1986.
2. Колектив на ИПМИ, Избрани глави от математиката, Модули от I до V, Печатна база ТУ – София, 1993.
3. Колектив на ИПМИ, Сборник от задачи по висша математика, II и III част, Техника, София, 1979.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course<br>**Physics II** | Code: **FBE11** | Semester: **II** |
| Type of teaching:<br>**Lectures, laboratory work and seminars** | Lessons per week:<br>**L – 2 hours,**<br>**LW – 1 hour,**<br>**S – 1 hour** | Number of credits: **5** |

**LECTURER**: Assoc. Prof. DSc Iliycho Iliev, Department of Mathematics, Physics and Chemistry (FME), tel.: +359 32 659 673, email: iliev55@abv.bg , TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**: The class is compulsory for students of "Electronics" from the Bachelor' program of higher education.

**AIMS AND OBJECTIVES OF THE CLASS:** The aim of the class is to teach scientific knowledge in the field of natural sciences, familiarization with the main laws and terminology of contemporary physics. It must teach experimental and theoretical knowledge and skills with the goal of mastering the main tendencies of scientific progress.

**DESCRIPTION OF THE CLASS:** Basic topics: Oscillations-damped and decreased, Superposition of harmonic oscillations, Forced oscillations, Waves (types, reflection and refraction), Photometry and physiological optics, Geometric optics, Interference, Diffraction, Holography, Interaction of light and matter, double refraction and optical activity, Acoustics, Wave-corpuscular duality, Introduction in quantum mechanics (correspondence disambiguation, wave function, free particle, particle in potential well-infinite and finite, potential barrier, quantum harmonic oscillator), Hydrogen-like atom, Many-electron atoms, Energy of electrons in crystals (energy bands, conductors, semiconductors and dielectrics), Quantum statistics, Semiconductors, Electric conductivity of conductors and semiconductors, Junction phenomena, Thermoelectric phenomena, galvano-magnetic phenomena, Physical ground of lasers, Luminescence, Cell Physics (cell structure, radioactivity, cell energetics, elementary particles).

**PREREQUISITES:** Physics I, Mathematics I and II.

**TEACHING METHODS**: Lecturesq seminars and laboratory work which uses individual protection protocols.

**METHOD OF ASSESSMENT:** Written exam (test) at the end of the semester (80%), laboratory work (20%).

**INSTRUCTION LANGUAGE:** Bulgarian

**BIBLIOGRAPHY:**


1. Илиев Ил., Физика (I и II част), Учебник, Издателство „Екс-Прес", Габрово, 2013.
2. Илиев Ил., 144 решени задачи по физика, Учебно пособие, Издателство „Екс-Прес", Габрово, 2013.
3. Вълков Ив., Ек. Георджева, Ив. Иванов, Ил. Илиев, Хр. Карапанов, Лабораторен практикум по физика, Учебно пособие, Издателство „Екс-Прес", Габрово, 2013.
4. Михайлова В., Основи на физиката, SIELA, 2011.
5. Детлаф А., Б. Аворский, Курс Физики, Высшая школа, Москва,1989.
6. Трофимова. Т, Курс Физики. Высшая школа, Москва,1989.
7. Савельев И., Курс общей физики, том 1, 2 и 3, Наука, Москва, 1986/1988.
8. Максимов М., Основи на физиката, ч. I и II, Булвест 2000, София, 2008.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course:<br>**Material Science** | Code: **FBE12** | Semester: **II** |
| Type of teaching:<br>**Lectures,**<br>**Laboratory work** | Lessons per week:<br>**L – 2 hours,**<br>**LW – 1 hours** | Number of credits: **4** |

**LECTURER**:
Assoc. Prof. PhD Marin Genchev, Department of Electrical Engineering (FEA),
tel.: +359 32 659 512, email: marin2g@tu-plovdiv.bg , TU-Sofia, branch Plovdiv.

**COURSE STATUS IN THE CURRICULUM**: Compulsory subject in the curriculum for the major of Electronics of the Electronics and Automation Faculty, full- time students, Bachelor of science.

**AIMS AND OBJECTIVES OF THE COURSE:** The subject aims at introducing the students to the methods and means of measuring the characteristics of different types of materials and in accordance with the requirements of the Bulgarian State Standard and the respective international standards and methods to control the quality and reliability of insulation systems.

**DESCRIPTION OF THE COURSE:** The subject Material Science treats the behavior of different kinds of electrical engineering materials in electrical and magnetic fields and the processes in them. Students study the basic properties and characteristics, the types of materials: insulators, conductors, semiconductors and magnets and their application in electrical engineering.

**PREREQUISITES:** The course of lectures is based on students' knowledge on Mathematics, Physics and Programming and application of computers.

**TEACHING METHODS**: Lectures. Laboratory work carried out using a guide with reports worked out by the students and defended at classes in the presence of a lecturer.
**METHOD OF ASSESSMENT:** Written examination at the end of the semester.
**INSTRUCTION LANGUAGE:** Bulgarian
**BIBLIOGRAPHY:**

1. Генчев М., Електроматериалознание, учебник , Дъга принт ООД , Пловдив, 2011.
2. Генчев М., Ръководство за лабораторни упражнения по електроматериалознание, Дъга принт ООД, Пловдив, 2011.
3. Тодорова А. , Г. Дюстабанов, М.Генчев, Ръководство по материалознание, Издателство на ТУ-София , 1994.
4. Генчев М., Електротехнически материали, електронен учебник, e-book , http://elrn.tu-plovdiv.bg/microsoftclasserver , 2010.
5. Генчев М., Ръководство за лабораторни упражнения по електротехнически материали, електронен учебник , e-book , http://elrn.tu-plovdiv.bg/microsoftclasserver, 2009.
6.Тодорова А., Г.Дюстабанов, Електротехнически материали, ПБ на ТУ-София, 2009.
7.Тодорова А., Г.Дюстабанов, Ръководство за лабораторни упражнения по електротехнически материали, ПБ на ТУ-София, 2013.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course:<br>**Machine Science** | Code: **FBE13** | Semester: **II** |
| Type of teaching:<br>**Lectures,**<br>**Laboratory work** | Lessons per week:<br>**L – 2,**<br>**LW – 2** | Number of credits: **5** |

**LECTURERS**:

Assoc. Prof. PhD Zlatko Zlatanov, Department of Mechanics (FME),
tel.: +359 32 659 634, email: zlatanov@tu-plovdiv.bg, TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM:** A compulsory course for students, majoring in Electronics, Bachelor degree course.

**AIMS AND OBJECTIVES OF THE COURSE**: The main objective of the course "Mechanics" is to expand and develop the knowledge, obtained from the courses of Physics and Material science in the field of engineering mechanics, the theory of mechanisms and machines, the elements of the equipment and machines, based on the engineering background. Along with the acquisition of basic knowledge the course aims at adoption and implementation by the students of engineering methods for solving a wide range of technical tasks. Based on the knowledge obtained in this course the students will be able to conduct effective professional dialogue with representatives from engineering, mechanical and manufacturing disciplines.

**COURSE DESCRIPTION**: Main topics: Basic terms and objects; Kinematics of plane motions and mechanisms; Forces and operations with them. Characteristics of rigid bodies; Strength of Materials. Interconnections; Clutches; Bearings, Bearing supports and axles; Friction and rack mechanisms; Machine dynamics.

**PREREQUISITES:** Knowledge of Calculus, Physics, and Material science needed.

**TEACHING METHOD:** Lectures and laboratory work.

**METHODS OF ASSESSMENT:** Written examination at the end of the second semester.

**LANGUAGE OF INSTRUCTION:** Bulgarian

BIBLIOGRAPHY:

1. Живков В., С. Павлов, А. Андонов, Механика (Машинознание), изд. на ТУ – София, I и II част, 2009.
2. Недев Д., В. Гълъбов, А. Лилов, А. Андонов, Машинознание, Софттрейд, 2002.
3. Писарев А., Ц. Парасков, С. Бъчваров, Курс по теоретична механика - I и II част, Техника, София, 1988.
4. Николов Н., Съпротивление на материалите, София, 2013.
5. Гълъбов В., С. Гарабитов, Т. Тодоров, И. Вълчев, Т. Стоев, И. Данчев, Ръководство за лабораторни упражнения по машинознание, Софттрейд, 1999.
6. Бъчваров С., А. Джонджоров, Б. Чешанков, Н. Малинов, Методично ръководство за решаване на задачи по теоретична механика - I и II част, Техника, София, 1992.
7. Мандичев Г. и др., Сборник от задачи и методически указания по съпротивление на материалите, София, 1993.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course:<br>**Programming and Computer Application II** | Code: **FBE14** | Semester: **II** |
| Type of teaching:<br>**Lectures,**<br>**Laboratory work, Course work** | Lessons per week:<br>**L – 2 hours,**<br>**LW – 1 hour** | Number of credits: **5** |

**LECTURER:**

Assoc. Prof. PhD Dilyana Budakova, Department of Computer Systems and Technologies (FEA), tel.: +359 32 659 705, e-mail: dilyana_budakova@yahoo.com,
TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM:** a compulsory course for the students, majoring in Electrical Engineering and Automatics at Sofia Technical University, Plovdiv Branch, Bachelor's degree.

**AIMS AND OBJECTIVES OF THE COURSE:** The students to learn and be able to apply the approaches, methods and the technical means, as well as the basic principles of the structural approach in programming and, in accordance with their needs and interests, to acquire new knowledge and possibilities in this subject area.

After completing the course the students are expected to: know the principles of operation of the pre-processor and its possibilities for adaptation of the programming code; be able to create, maintain and process binary and text files; know the principles for creation and use of new types in C language; have knowledge of programming at a lower level – work with individual bites; know the principles of work with data structures for realization of basic algorithms in programming.

**COURSE DESCRIPTION:** Some of the main topics are: Pre-processor in C; Inclusion of files; Macro definitions and functions; Macros with arguments; Macros and functions; Conditional compilation; Low-level programming; Bit-by-bit operations; Nature, purpose, use, examples; Bit fields; Notion for assembler; Implementing interface for including assembly program in C. Data structures; Structure and organization of work with data: functional specifics, logical description and physical representation; Types of classifications; Static data structures; Structures in C language; Complex and nested structures; Relationship with pointers and arrays; List; Stack; Tail; Deck; Static and dynamic implementation; Basic operations: element inclusion, traversal, element deletion; Trees; Definition and spheres of application; Binary tree; Conversion of an arbitrary tree into a binary one; Algorithms for processing binary trees: search by a given key; inclusion of a new vertex, exclusion of a vertex by a given key, traversal; Graphs; Basic notions; Representation and simple operations with a graph; Graph traversal; Traversal algorithms; Sorting; Sorting algorithms; Search; Consecutive search; Binary search; String processing; String length; String comparison; Algorithms for search in a string. Work with dynamic data. Extended work with functions; functions; Address pointers; Memory classes; Pointers to functions; Distribution of the address space in a single-programme mode; Dynamic memory allocation; System means of dynamic memory allocation; Dynamic one-dimensional arrays, arrays of pointers; Recursion; Nature, use, examples; Recursion and iteration; Input/output operations; Classification and properties of the input/output devices; Additional data for files description and processing; Text and binary files;

**PREREQUISITES:** Knowledge of structural programming and C language at the level of PCA I.

**TEACHING METHODS:** Lectures, laboratory exercises on the basic topics, project topic on choice.

**METHODS OF ASSESSMENT:** ongoing assessment, based on two written tests – the first one with a coefficient of weight 0.5, and the second with a coefficient of weight 0.4, plus a course paper with a coefficient of weight 0.1.

**LANGUAGE OF INSTRUCTION:** Bulgarian

**BIBLIOGRAPHY:**


1. Момчев Ив., К. Чакъров, Програмиране III (C и C++), ПБ на ТУ, София, 2003.
2. Георгиева Юл., М. Горанова, Ив. Йорданов и др., Ръководство по Програмиране и използване на компютри I (C), СИЕЛА, София, 2001.
3. Brian W. Kernighan, Dennis M. Ritchie, The C Programming Language, Prentice-Hall, Englewood Cliffs, 1988.
4. http://refg.tu-sofia.bg/PIK/
5. http://refg.tu-sofia.bg/~july/PIK2.htm
6. Керниган Б., Д. Ритчи, Язык программирования C, Фин. и стат., Москва, 1985.
7. http://electrosofts.com/parallel/index.html Parallel Port Programming with C
8. http://www.cprogramming.com/tutorial/bitwise_operators.html Bitwise Operators in C and C++
9. http://www.osdever.net/FreeVGA/vga/vgamem.htm VGA and SVGA Video Programming
10. http://refg.tu-sofia.bg/PIK/n1124.pdf International standard ©ISO/IEC

# DESCRIPTION OF THE COURSE

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|---|---|---|
| Name of the course<br>**Technological Practicum** | Code: **FBE15** | Semester: **II** |
| Type of teaching:<br>**Seminars and**<br>**Laboratory Work** | Lessons per week:<br>**S- 1 hour,**<br>**LW-2 hours** | Number of credits: **1** |

**LECTURERS:**

Assist. Prof. PhD Georgi Bonev, Department of Electronics (FEA),
tel.: +359 32 659 761, e-mail: gbonev@engineer.bg, TU-Sofia, branch Plovdiv
Assist. Prof. PhD Rosen Bozhilov, Department of Electronics (FEA),
tel.: +359 32 659 764, e-mail: rossen_chi@abv.bg, TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM:** Compulsory for the Bachelor's degree students, majoring in Electronics at the Faculty of Electronic and Automation.

**AIMS AND OBJECTIVES OF THE COURSE:** The aim of the course "Technological Practicum" is to provide the students with basic knowledge in the fields of electronic production processes, technical documentation and work with electronic equipment. The trainees also develop practical skills for working with devices and materials used in electronics.

**DESCRIPTION OF THE COURSE:** The course deals with technological processes in electronics - PCB manufacturing, soldering, chemical treatment, heat treatment, assembling-disassembling, etc. The students are introduced to the basic tools, instruments, materials and elements used in electronics. Attention is paid to the safety of the technological activities and work with electronic equipment.

**PREREQUISITES**: The course is based on students' basic knowledge of physics, chemistry and elementary skills in working with technical means.

**TEACHING METHODS:** The seminars are carried out as group lessons using different techniques for presenting the course material. The laboratory work consists in realization of practical assignments, carried out in groups or individually by the students depending on their nature.

**METHOD OF ASSESSMENT:** certification based on ongoing assessment.

**INSTRUCTION LANGUAGE**: Bulgarian

**BIBLIOGRAPHY:**

1. Динев П., Технологичен практикум (част 1 и част 2), Нови знания, 2011.
2. Динев П., Ч. Димитров и др., Лабораторни упражнения по технологичен практикум, Издателство ТУ-София, 2004.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course<br>**Engineering Design Fundamentals II** | Code: **FBE16** | Semester: **II** |
| Type of teaching:<br>**Lectures, Laboratory work** | Lessons per week:<br>**L – 1 hour,**<br>**LW – 2 hours** | Number of credits: **3** |

**LECTURER**:

Assoc. Prof. Dr. Eng. Pavlinka Katsarova, Department of Mechanical and Instrument Engineering (FME), tel.: +359 32 659 636, e-mail: p_katsarova@abv.bg,
TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE CURRICULUM**: Compulsory subject in the curriculum for the major "Electronics", B.Sc. programme of the Faculty of Electronics and Automatics, Technical University of Sofia, branch Plovdiv.

**AIMS AND OBJECTIVES OF THE COURSE:** The course of Engineering Design Fundamentals aims at giving the students knowledge and skills necessary for composing fundamental graphic and text documents for the stages of design and the production of electrical engineering ware.

**DESCRIPTION OF THE COURSE:** Basic topics: Types of constructor's documents. Featuring the fundamental elements of space. Featuring real solids. Dimensioning. Tolerance and fittings. Featuring and marking the typical junctions. Blueprint of a mounted unit. Electrical engineering blueprints. Electrical schemes – types and implementation instructions.

**PREREQUISITES:** Required knowledge of Mathematics on the basis of which the methods of problem solving from the sphere of the technical documenting are developed.

**TEACHING METHODS**: Lectures supported by blueprints, slides, boards. Laboratory work during which particular problems from the sphere of the technical documenting are solved.

**METHOD OF ASSESSMENT:** Current mark with two written test papers.

**INSTRUCTION LANGUAGE:** Bulgarian

**BIBLIOGRAPHY:**

1. Ангелов П., Техническо чертане и стандартизация, Техника, София, 1989.
2. Спиридонов Г., В. Търновска, В. Хубанова, М. Лепаров, Ръководство за упражнения по техническо чертане и стандартизация, Техника, София, 1988.
3. Русева Сл. и др. ЕСКД, Справочник по конструкторска документация. Оформяне и изисквания, Техника, София, 1983.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Name of the course: **Foreign Language II** | Code: **FBE17** | Semester: **I** |
| Type of Teaching: **Seminars** | Contact hours per week: **S – 2 hours** | Number of credits: **0** |

**LECTURERS:**

**English**

Sr. Lect. Penka Taneva-Kafelova, Department of Industrial Management (FME), tel.: +359 32 659 722; e-mail: tanneva@gmail.com, TU-Sofia, branch Plovdiv

Sr. Lect. Nadya Popova, Department of Industrial Management (FME), tel.: +359 32 659 707; e-mail: popovanadia@yahoo.com, TU-Sofia, branch Plovdiv

Sr. Lect. Konstantina Nyagolova, Department of Industrial Management (FME), tel.: +359 32 659 722; e-mail: konstantinanik@yahoo.com, TU-Sofia, branch Plovdiv

Sr. Lect. Anet Arabadjieva, Department of Industrial Management (FME), tel.: +359 32 659 707; e-mail: anet2003@abv.bg, TU-Sofia, branch Plovdiv

Lect. PhD Daniela Valeva, Department of Industrial Management (FME), tel.: +359 32 659 716; e-mail: daniela.valeva89@gmail.com, TU-Sofia, branch Plovdiv

Lect. Nadezhda Geshanova, Department of Industrial Management (FME), tel.: +359 32 659 716; e-mail: nadya_cmf@hotmail.com, TU-Sofia, branch Plovdiv

**German**

Sr. Lect. Mariana Dinkova, e-mail: mdinkova@yahoo.de

**COURSE STATUS IN THE SYLLABUS:** Compulsory for the students majoring in „Electronics" at the Faculty of Electronics and Automation, Bachelor's Degree.

**COURSE OBJECTIVES**: Targeted at further developing of students' knowledge and practical skills in the specific foreign language.

**COURSE DESCRIPTION**: The foreign language teaching is in either of two languages of equal academic status: English or German. It is carried out at the respective levels determined through placement tests, based on the principal foreign language studied at secondary school. No AB groups are formed. Apart from the general foreign language the curricula include English or German for specific purposes in accordance with students' major subject.

**PREREQUISITES:** The curricula in both languages presume the minimum of language knowledge and skills acquired at secondary school.

**TEACHING METHODS**: Seminars using modern technical equipment: language lab, audio and video, as well as multimedia.

**METHODS OF TESTING AND EVALUATION**: Evaluation is based on continuous assessment and two tests.

**LANGUAGE OF INSTRUCTION:** English/German

**LITERATURE RECOMMENDED:**

**English**

1. New Headway English, OUP
2. English for Computing, OUP
3. English for Electrical Engineering, OUP
4. English for Electrical Engineering, Alma Mater International, 2001.
5. English for Computing, Alma Mater International, 2001.
6. ProFile1 Pre-intermediate, Jon Naunton, Oxford University Press, 2005.
7. ProFile2 Intermediate, Jon Naunton, Oxford University Press, 2005.
8. Business Basics, David Grant and Robert McLarty, Oxford University Press.

9. Business Objectives, Vicki Hollett, Oxford University Press
10. Business Opportunities, Anna&Terry Phillips, Oxford University Press
11. Business Challenges, Nina O'Driscoll, Fiona Scott-Barret, Longmam
12. Quick Launch into English, Ivan Shotlekov, Penka Taneva, PUPress
13. Developing Business Contacts, OUP
14. How To Be British, Magazine, John Hoover, 1998.
15. Reader for students of Mechanical Engineering and Electronics, Plovdiv,1990.

**German**

1. Dinkova,M.:Deutsch. Ein Text- und Übungsbuch für Studierende aller Fachrichtungen an der TU Sofia, Filiale Plovdiv, Издателство на ТУ София, 1992.
2. Dinkova,M./Murdsheva,St.:Deutsch für Techniker,Алма Матер Интернационал, Габрово, 2001.
3. Becker, Norbert: Fachdeutsch Technik, Metall- und Elektroberufe, Grundbuch, Max Hueber Verlag, 1995.
4. Becker, Norbert: Fachdeutsch Technik, Metall- und Elektroberufe, Übungsheft, Max Hueber Verlag, 1996.
5. Zettl,E./Janssen,J.: Aus moderner Naturwissenschaft und Technik, Max Hueber Verlag 1987.
6. Buhlmann,R. /Fearns,A: Hinführung zur naturwissenschaftlich-technischen Fachsprache, NTF,Teil 4: Elektronik, Informatik, Max Hueber Verlag 1990.
7. Das Einsteigerseminar, PC&EDV, Grundlagen der Datenverarbeitung, BHV Verlag Düsseldorf, 1989.
8. Schiller, E.: Computerwissen für alle, Fachbuchverlag Leipzig, 1990.

**DESCRIPTION OF THE COURSE**

| | | |
|---|---|---|
| Course Title:<br>**Physical Culture** | Code: **FBE18** | Semester: **I** |
| Type of Teaching:<br>**Seminars** | Contact hours per week:<br>**S – 3hours** | Number of credits: **0** |

**LECTURERS:**

Assoc. Prof. Dr. ValentinVladimirov, Department of Physical Education and Sport (FEA), tel.: +359 32 659 646, e-mail: valdesv2003@yahoo.com, TU-Sofia, branch Plovdiv

Sr. Lect. Penka Meleva, Department of Physical Education and Sport (FEA), tel.: +359 32 659 648, e-mail: penk1959@abv.bg, TU-Sofia, branch Plovdiv

Sr. Lect. Dr. Daniel Vladimirov, Department of Physical Education and Sport (FEA), tel.: +359 32 659 646, e-mail: ludarabota@abv.bg, TU-Sofia, branch Plovdiv

Sr. Lect. Dr. Krasimir Djaldeti, Department of Physical Education and Sport (FEA), tel.: +359 32 659 648, e-mail: krsj@abv.bg, TU-Sofia, branch Plovdiv

Lect. Dr. Petar Doganov, Department of Physical Education and Sport (FEA), tel.: +359 32 659 648, e-mail: , TU-Sofia, branch Plovdiv

**COURSE STATUS IN THE SYLLABUS:** Compulsory for all students at both faculties of the Technical University of Sofia, Plovdiv Branch in their 1st and 2nd year (semesters 1, 2, 3 and 4).

**COURSE OBJECTIVES**: 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.

**METHODS OF TESTING AND EVALUATION**: Evaluation is based on functional tests at the end of semester. Lecturer's signature is required at the end of semester.

**LANGUAGE OF INSTRUCTION:** Bulgarian

**LITERATURE RECOMMENDED:**

1. Владимиров В., Туризъм и ориентиране, Методическо ръководство за студентите от ТУ-София, филиал Пловдив, Издателство на ТУ – София, 2010.
2. Матикова С., Методично ръководство за начално обучение по тенис за студенти (второ преработено и допълнено издание), 2012.