

DESCRIPTION OF THE COURSE

Name of the course: Mathematics I	Code: BpIEe01	Semester: I
Type of teaching: Lectures (L) Seminars (S)	Hours per semester: L – 22 hours S – 20 hours	Number of credits: 5

LECTURER(S):

Assoc. Prof. Vasil Petrov, PhD (FME) , tel.: 032 659 680 email: vasil_petrov@tu-plovdiv.bg

Technical University of Sofia-Branch Plovdiv
Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialty “Industrial Engineering”, 5.13 General engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: Getting some basic knowledge of algebra, calculus of a single variable and analytic geometry, necessary for the coming other mathematical subjects as well as for other fundamental subjects: physics, mechanics, theory of electrical engineering.

DESCRIPTION OF THE COURSE: Main topics: *Algebra* – polynomials – division algorithm, zeros, factoring, rational functions and partial fractions, complex numbers – algebraic operations, geometrical representation, polar and exponential form; *Analytic geometry* – Vectors in R^2 and R^3 , Coordinate systems, geometrical interpretation of addition and subtraction of vectors, vector equation of a straight line, scalar product; *Calculus of a single variable* – sequences, limits of sequences, limits and continuity of functions, derivatives and differentials, applications of derivatives , asymptotes, curve sketching , antiderivatives and the indefinite integral

PREREQUISITES: Very good high school mathematics.

TEACHING METHODS: Lectures and Seminars.

METHOD OF ASSESSMENT: Written exam.

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY:

1. Robert A. Adams, Christopher Essex, *Calculus (A complete course)*, Pearson, Toronto, 8th ed., 2013..

COURSE DESCRIPTION

Name of the course: Physics I	Code: BpIEe02	Semester: 1
Type of teaching: Lectures(L) Laboratory work (LW)/Tutorials (T) Course work (CW)	Hours per semester: L – 22 hours T– 20 hours LW – 15 hours	Number of credits: 5

LECTURERS:

1. Asst.prof. Georgi Lubomirov Dobrev , PhD, GSM:0886346154, email: – dobrev.1975@abv.bg, dobrevbg@tu-plovdiv.bg
2. Associate Professor Ilijco Petkov Iliev, D.Sc, PhD, tel.: 032659673, email: iliev55@abv.bg – Department of Mathematics, Physics and Chemistry, Faculty of Mechanical Engineering, Sofia Technical University, Plovdiv Branch.

Department of Mathematics, Physics and Chemistry, Faculty of Mechanical Engineering, Sofia Technical University, Plovdiv Branch.

COURSE STATUS IN THE CURRICULUM: A compulsory course for students, majoring in Industrial engineering during the first semester of their studies and it is a Bachelor degree course.

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.

COURSE DESCRIPTION: 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», «Fibrations», «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 METHOD: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).

METHODS 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.

LANGUAGE OF INSTRUCTION: English language

BIBLIOGRAPHY:

Main literature:

- 1.Halliday and Resnick , Fundamentals of physics .,Jearl Walker .,Cleavelend state university 2007.
- 2.Halliday and Resnick , Instructors solutions manual for fundamentals of Physics. Jearl Walker, 9th edition .
- 3.I.P. Iliev. Physics (I and II part). Ex-Press Publishing House, 2018.
- 4.I.P. Iliev. 144 solved problems in physics. Ex-Press Publishing House, 2018.
- 5.Savalev IV "Course in General Physics" I, II, III vol. Ed. Nauka, Moscow, 1973.
- 6.S. Yordanov, Physics 1. EX-PRESS, 2006.
- 7.I. Valkov, Physics in "Problems I", "Macros" Plovdiv, 2012.
- 8.I. Valkov, E. Georgjeva and others. Laboratory Workshop on Physics "EX-Press", Gabrovo, 2010.
- 9.D. Hristozov et al., Laboratory Workshop on Physics, ed. Science and Art, 1990.

Additional literature:

- 1.T.Trofimova. Physics course. Ed. At Sofia University "Kl. Ohridski" 1995.
2. M.Maximov. Fundamentals of physics. Part 1.2 Sofia 2000.
- 3.S. Damyanov. Collection of problems in physics. Science and Art Publishing House, Sofia 1987.
- 4.Savalev IV "Course in General Physics" I, II, III vol. Ed. Nauka, Moscow, 1973.
5. S. Yordanov, Physics 1. EX-PRESS, 2006.
6. I. Valkov, Physics in "Problems I", "Macros" Plovdiv, 2012.
7. D. Hristozov et al., Laboratory Workshop on Physics, ed. Science and Art, 1990.
8. N. Ilkov, S. Nikolov, Physics part 1, Sofia, 2003.

DESCRIPTION OF THE COURSE

Name of the course: Chemistry	Code: BpIEe03	Semester: I
Type of teaching: Lectures (L) Laboratory work (LW)	Hours per semester: L - 22 hours LW - 15 hours	Number of credits: 4

LECTURES:

Assoc. Prof. Ivalina Petrova, PhD (FME), tel.: 032 659653, e-mail: ivalinapetrova@tu-plovdiv.bg

Chief Assist. Prof. Kalina Kamarska, PhD (FME), tel.: 032 659653, e-mail: kamarska@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 Industrial Engineering, Professional orientation 5.13 General engineering

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 their chemical composition, structure and properties. To study chemical properties of metals and their electrochemical behaviour in different medium in relation to corrosion of metals and their alloys. To introduce the main methods for prevention of corrosion. To provide theoretical and technological knowledge of basic chemical and electrochemical processes used in the 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 are acquainted with 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 behaviour, 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 with protocols.

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

INSTRUCTION LANGUAGE: English.

BIBLIOGRAPHY:

1. Huang K. Principles of Electrochemical Conversion and Storage Devices. Wiley-VCH, Weinheim, 2024.
2. Lefrou C., P. Fabry., J. Poignet. Electrochemistry The Basics, With Examples. Springer, Berlin, 2012.

3. Parisheva Z. Chemistry for industrial engineering. Technical University of Sofia, Sofia, 2010.
4. Ebbing D., S. Gammon. General chemistry. Houghton Mifflin Company, New York, 2009.
5. Bagotsky V. Fundamentals of electrochemistry. John Wiley, Hoboken, 2006.
6. Ashby M., D. Jones. Engineering materials II: An Introduction to Properties, Applications and Design. Elsevier, Oxford, 2006.
7. Ashby M., D. Jones. Engineering materials I: An Introduction to Properties, Applications and Design. Elsevier, Oxford, 2005.
8. Bardal E. Corrosion and protection. Spring, London, 2003.
9. Roberge P. Handbook of Corrosion Engineering. McGraw-Hill Education, New York, 2000.
10. Painter P. Coleman M. L. Fundamentals of Polymer Science, Destech Publications Inc., 1997.
11. Lister T., J. Renshaw. Understanding Chemistry for Advanced. Nelson Thornes, Cheltenham, 1995.
12. Holtzclaw H., W. Robertson. General Chemistry, Heath & Company, USA, 1988.
13. Finar I. Organic Chemistry, Heath & Company, USA, 1986.

DESCRIPTION OF THE COURSE

Name of the course: Mechanics I	Code: BpIEe04	Semester: 1
Type of teaching: Lectures (L) Seminars (S)	Hours per semester: L – 22 hours S – 15 hours	Number of credits: 7

LECTURER(S):

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Assist. Prof. Eng. Ivanka Delova (FME), tel.: 0898960191, e-mail: ivankadelova@tu-plovdiv.bg
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COURSE STATUS IN THE CURRICULUM: Compulsory facultative subject from the curriculum for training students for Bachelor's degree, specialties "Industrial engineering" professional field 5.13 General engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The course builds engineering and technical culture in students and develops knowledge and skills for independent work and engineering assessment of various types of technical problems. The exercises expand the practical knowledge and skills in the studied discipline.

DESCRIPTION OF THE COURSE: Main topics: Basic concepts and objects in mechanics. Subject, tasks and axioms of statics; Moment of force about a point and an axis; Types of supports, support reactions and equilibrium conditions; Concurrent, two and three- dimensional system of forces; Kinematics of particles - methods for describing motion. Determination of speeds and accelerations; Kinematics of a mechanical system and an ideal rigid body - laws of motion in translational, rotational and planar motion. Determination of speeds and accelerations;

PREREQUISITES: Mathematics, Physics, Technical documentation.

TEACHING METHODS: Lectures, using slides. The seminar exercises are presented in a classic version.

METHOD OF ASSESSMENT: Written exam at the end of the semester.

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY:

1. Hibbeler Russell C. Engineering Mechanics: Statics in SI Units, 14th Edition, Global Edition. — Pearson, 2017.
2. Hibbeler R.C. Engineering Mechanics: Dynamics, 13th Edition - Prentice Hall, 2012.
3. Beer F.P., Johnston E.R., Mazurek D.F., Cornwell P.J., Eisenberg E.R. Vector Mechanics for Engineers: Statics and Dynamics, McGraw-Hill, 2010.
4. Meriam J.L., Kraige L.G. Engineering Mechanics: Statics, 5th Edition. John Wiley & Sons, Inc., 2002.

DESCRIPTION OF THE COURSE

Name of the course: Applied geometry and engineering graphics	Cod: BpIEe05	Semester: 1
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 15 hours LW – 30 hours	Number of credits: 4

LECTURER:

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Technical University of Sofia, Branch Plovdiv

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

AIMS AND OBJECTIVES OF THE COURSE: After the training, students must have acquired knowledge and skills for making working drawings of details. Also initially preparing to work with graphical CAD systems: AutoCad or SolidWorks. This is necessary for the implementation of a course project in the next course on "Fundamentals of construction".

DESCRIPTION OF THE COURSE:The main topics included two parts. Part One: Descriptive geometry-Projections, Axonometric projections, Orthographic projection, Intersection of surfaces and bodies, Development of surfaces. Methods for development and Development for practical application. Part Two: Engineering graphics- Introduction in Engineering graphics, Dimensioning, Tolerances, Geometrical tolerances and Surface roughness. The students must to working in classroom with tasks from Appendix One and Two in textbook. As a result, their imagination for geometric modeling of bodies develops. Also mastering the rules and standardization requirements, they are able to prepare working drawings of details and elements. The students can use a graphics system to their liking. This issue is also related to the preliminary computer training in high school or out of class preparatory courses.

PREREQUISITES: Mathematical knowledge from high school in geometry, algebra and possibilities for modeling geometric objects in CAD environment.

TEACHING METHODS: Lectures, using power point presentations, laboratory exercises, laboratory and course work. They work in the classes for exercises in geometric modeling of technical objects. Description of the course work, Working drawings of details and defense of the course work.

METHOD OF ASSESSMENT: Two Test and Task Controls assessments at mid and end of semester (60%), laboratories work (20%), course work with three off assignments (20%).

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY: 1.Dinev G. Course on Applied Geometry and Engineering Graphics, AVANGARG PRIMA, Sofia, 2010, pp.98.ISBN 978-954-323-750-0, 2. Bertoline G., E. Wiebe Fundamentals of graphics communications, 4th Edition, Mc. GrawHill Higher Education, New Yourk, 2005, ISBN 0-07-286458-3. 3. Ostrovsky O. Engineering drawing: with CAD applications, Edward Arnold, Notingham, ISSN 0-340-50411-0.

DESCRIPTION OF THE COURSE

Name of the course: Informatics I	Code: BpIEe06	Semester: 1
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S)	Hours per semester: L – 15 hours S – 15 hours LW – 22 hours	Number of credits: 4

LECTURER(S):

Assoc. prof. eng. Mitko Shopov, PhD (FEA), tel.: 659 765, e-mail: mshopov@tu-plovdiv.bg
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COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialty Industrial Engineering, Professional orientation 5.13 General Engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: To provide basic knowledge about computers, computer environments and applications, to develop skills in computer-based problem solving and ANSI C programming, as well as to encourage the natural usage of computing facilities throughout the rest of the academic studies.

DESCRIPTION OF THE COURSE: The main topics concern: Computers and Applications. Modern Information Technologies. Computer Communications. Computer Architecture. Hardware. Computer as a Data Manipulator. Number Systems. Data Representation. Computer Software. Operating Environments. Graphical User Interface. Computer Programming. Programming Languages. Computer-Based Problem Solving Methodology. High-Level Programming Language C. General Program Format. The Fundamental Data Types. Operations with Data. Expressions. Statements. Basic Input and Output. Processing of Data. Control Structures. Modular Programming. Functions. Pointers. Addressing. Pointer Arithmetic. Advanced Use of Functions.

PREREQUISITES: Mathematics.

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

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

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY: 1. Ralph Stair, George Reynolds. Principles of Information Systems, Boston, USA, 2013; 2. Kernighan, B., D. Ritchie. The C Programming Language, Prentice Hall, 1991; 3. K. N. King. C Programming: A Modern Approach, 2nd Edition, 2008; 4. Carlos Coronel, Steven Morris. Database Systems: Design, Implementation & Management, USA, 2014; 5. Stephen Prata. C Primer Plus (5th Edition), 2004.

DESCRIPTION OF THE COURSE

Name of the course: Introduction to Manufacturing and Industrial Practice I	Code: BpIEe07	Semester: 1
Type of teaching: Self-Study (SS)	Hours per semester: SS– 30 hours S- 0 hours LW- 0 hours	Number of credits: 1

LECTURER(S):

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

AIMS AND OBJECTIVES OF THE COURSE: To familiarize the students with the basic manufacturing principles, as well as with the problems of the manufacturing enterprises as a technical and economic system. Course material is visualized with appropriate video materials and supplemented with visits to manufacturing companies.

DESCRIPTION OF THE COURSE: The main topics concern: Introduction to the specialty; Manufacturing as a technical and economic system; Casting, bulk deformation and sheet metal processing (features, types, equipment, products); Powder metallurgy (processes, equipment, products); Metal machining operations (features, types, equipment, products); CNC machines (elements, types of control, programming requirements); Assembly processes (types, ways, requirements, products); Production automation (basic principles, elements, trends of development); Production system efficiency.

PREREQUISITES: Physics, Applied Geometry and Engineering Graphics.

TEACHING METHODS: No.

METHOD OF ASSESSMENT: Assessments at end of semester .

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY: 1. Bedworth D., M. Henderson, P. Wolfe, Computer-Integrated Design and Manufacturing, McGraw-Hill, Inc., New York, 1991; 2. Eef Moeskopf, Frits Feenstra, Introduction to Rapid Prototyping, CHAPTER 5, Online ISBN: 978-1-84628-856-2, http://link.springer.com/chapter/10.1007%2F978-1-84628-856-2_5?LI=true, 2004; 3. Emad Abouel Nasr, Ali K. Kamrani, Computer-Based Design and Manufacturing, CHAPTER 11, Online ISBN: 978-0-387-23324-6, http://link.springer.com/chapter/10.1007/978-0-387-23324-6_11, 2007; 4. Mikell P Groover, Fundamentals of Modern Manufacturing: Materials, Processes and Systems - 4th Edition, ISBN-10: 1118231465, ISBN-13: 978-1118231463; 5. Rajender Singh, Introduction to Basic Manufacturing Processes And Workshop Technology, <http://ebookbrowse.com/introduction-to-basic-manufacturing-processes-and-workshop-technology - pdfd194060203>.

COURSE DESCRIPTION

Course Title English Language	Code: BpIEe08	Semester: 1
Type of Teaching: Seminars (S)	Contact hours per semester: S – 30 hours	Number of credits: 2

LECTURERS:

Sen. Lect. Konstantina Nyagolova (FME, English)
Sen. Lect. Nadya Popova (FME, English)
Sen. Lect. Anet Arabadjieva (FME, English)
Sen. Lect. Nadezhda Geshanova (FME, English)
Sen. Lect. Dr Daniela Valeva (FME, English)

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COURSE STATUS IN THE CURRICULUM: Compulsory course in the curriculum of the *Bachelor Degree Programme in Industrial Engineering*, Professional qualification 5.13 General Engineering, Professional field 5 Technical Sciences.

COURSE OBJECTIVES: The course is targeted at providing basic knowledge and skills in the area of academic writing, listening and reading; expanding and ensuring appropriate use of basic engineering terminology in English; familiarising students with the requirements of international academic exams.

COURSE DESCRIPTION: The main topics include: Basic terminology – English for Science and Technology; International exams at CAE level; Academic writing skills; Academic reading and listening skills; Essay writing; Writing abstracts and summaries; Writing definitions; Referencing and quoting; Describing tables and graphs; Academic English language practice – word-formation, punctuation, signposting, functional exponents, cohesive devices, verb tenses, style, abbreviations.

PREREQUISITES: English language competence at level B2–C1 as per EFL entrance requirements.

TEACHING METHODS: Seminars and discussions, case studies, course work portfolio, group work, independent work.

METHODS OF TESTING AND EVALUATION: Evaluation is based on continuous assessment.

LANGUAGE OF INSTRUCTION: English

LITERATURE RECOMMENDED:

1. *Advanced Expert CAE*, Jan Bell, Roger Gower, Pearson Education Ltd
2. *Ready for Advanced*, Roy Norris, Amanda French, Macmillan
3. *Technical English*, Pearson Longman
4. *Business Vocabulary in Use*, Cambridge University Press
5. *Intelligent Business*, Irene Barall, Nikolas Barall, Pearson

DESCRIPTION OF THE COURSE

Name of the course: Sport	Code: BpIEe09	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 Vladimirov, 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_spasov@tu-plovdiv.bg

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COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialties "INDUSTRIAL ENGINEERING in English", 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 curriculum presumes the minimum of knowledge and skills acquired at secondary school.

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

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

INSTRUCTION LANGUAGE: Bulgarian

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

DESCRIPTION OF THE COURSE

Name of the course: Mathematics II	Code: BpIEe10	Semester: 2
Type of teaching: Lectures (L) Seminars (S)	Hours per semester: L – 22 hours S – 15 hours	Number of credits: 4

LECTURER(S):

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Technical University of Sofia

COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialty “Industrial Engineering”, 5.13 General engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: To get basic skills for solving differential and difference equations as well as modeling with them. To master the basic techniques of linear algebra.

DESCRIPTION OF THE COURSE: Main topics: definite integral – evaluation, properties and applications, improper integrals; basic first order ODE, linear differential equations of second and higher order with constant coefficients, difference equations; matrices, determinants and systems of linear equations; linear dependence and independence of vectors, bases; eigenvalues and eigenvectors of matrices and linear operators.

PREREQUISITES: Mathematics I (BpIEe01).

TEACHING METHODS: Lectures and Seminars.

METHOD OF ASSESSMENT: Written exam.

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY:

1. Robert A. Adams, Christopher Essex, Calculus (A complete course), Pearson, Toronto, 8th ed., 2013.
2. Erwin Kreyszig, Advanced Engineering Mathematics, John Wiley & Sons, 10th ed., 2018 .
3. Paul Blanchard, Glen R. Hall, Robert L. Devaney, Differential equations, Thomson Brooks/Cole, 4th ed., 2012

COURSE DESCRIPTION

Name of the course: Physics I	Code: BpIEe11	Semester: 2
Type of teaching: Lectures(L) Laboratory work (LW)/Tutorials (T) Course work (CW)	Hours per semester: L – 22 hours T– 15 hours LW – 12 hours	Number of credits: 4

LECTURERS:

1. Asst.prof. Georgi Lubomirov Dobrev , PhD, GSM:0886346154, email:dobrev.1975@abv.bg,
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2. Associate Professor Ilijco Petkov Iliev, D.Sc, PhD, tel.: 032659673, email: iliev55@abv.bg –
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COURSE STATUS IN THE CURRICULUM: A compulsory course for students, majoring in
Industrial engineering during the first semester of their studies and it is a Bachelor degree course.

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.

COURSE DESCRIPTION: 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», «Fibrations», «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 from secondary
school and certain elements from the courses in Mathematics (Calculus) .

TEACHING METHOD: 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).

METHODS 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.

LANGUAGE OF INSTRUCTION: English language

BIBLIOGRAPHY:

Main literature:

1. Halliday and Resnick, Fundamentals of physics, Jearl Walker, Cleaveland state university 2007.
2. Halliday and Resnick, Instructors solutions manual for fundamentals of Physics. Jearl Walker, 9th edition.
3. I.P. Iliev. Physics (I and II part). Ex-Press Publishing House, 2018.
4. I.P. Iliev. 144 solved problems in physics. Ex-Press Publishing House, 2018.
5. Savalev IV "Course in General Physics" I, II, III vol. Ed. Nauka, Moscow, 1973.
6. S. Yordanov, Physics 1. EX-PRESS, 2006.
7. I. Valkov, Physics in "Problems I", "Macros" Plovdiv, 2012.
8. I. Valkov, E. Georgjeva and others. Laboratory Workshop on Physics "EX-Press", Gabrovo, 2010.
9. D. Hristozov et al., Laboratory Workshop on Physics, ed. Science and Art, 1990.

Additional literature:

1. T. Trofimova. Physics course. Ed. At Sofia University "Kl. Ohridski" 1995.
2. M. Maximov. Fundamentals of physics. Part 1.2 Sofia 2000.
3. S. Damyantov. Collection of problems in physics. Science and Art Publishing House, Sofia 1987.
4. Savalev IV "Course in General Physics" I, II, III vol. Ed. Nauka, Moscow, 1973.
5. S. Yordanov, Physics 1. EX-PRESS, 2006.
6. I. Valkov, Physics in "Problems I", "Macros" Plovdiv, 2012.
7. D. Hristozov et al., Laboratory Workshop on Physics, ed. Science and Art, 1990.
8. N. Ilkov, S. Nikolov, Physics part 1, Sofia, 2003

DESCRIPTION OF THE COURSE

Name of the course: Mechanics II	Code: BpIEe12	Semester: 2
Type of teaching: Lectures (L) Seminars (S) Course Work (CW)	Hours per semester: L – 22 hours S- 15 hours	Number of credits: 7

LECTURER(S):

Assoc. Prof. Eng. Raycho Raychev, PhD (FME), tel.: 0895581138, e-mail: rpraichev@tu-plovdiv.bg

Chief Assist. Prof. Eng. Chavdar Pashinski, PhD (FME), tel.: 0878302513, e-mail: pashinski@tu-plovdiv.bg

Assist. Prof. Eng. Ivanka Delova (FME), tel.: 0898960191, e-mail: ivankadelova@tu-plovdiv.bg
Technical University of Sofia, Branch Plovdiv

COURSE STATUS IN THE CURRICULUM: Compulsory facultative subject from the curriculum for training students for Bachelor's degree, specialties "Industrial engineering", professional field 5.13 General engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: The course builds engineering and technical culture in students and develops knowledge and skills for independent work and engineering assessment of various types of technical problems. The exercises expand the practical knowledge and skills in the studied discipline.

DESCRIPTION OF THE COURSE: Main topics: Basic concepts and laws in dynamics. Dynamics of free and non-free particle - differential equations of motion. Straight and inverse task; Mechanical vibrations - free undamped and damped vibrations. Vibrations in environments with and without resistance.; Dynamics of mechanical systems - differential equations of motion. Geometry of masses; General theorems of dynamics;

PREREQUISITES: Mathematics, Physics, Technical documentation.

TEACHING METHODS: Lectures, using slides. The seminar exercises are presented in a classic version.

METHOD OF ASSESSMENT: Written exam at the end of the semester.

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY:

1. Hibbeler R.C. Engineering Mechanics: Dynamics, 13th Edition - Prentice Hall, 2012.
2. Beer F.P., Johnston E.R., Mazurek D.F., Cornwell P.J., Eisenberg E.R. Vector Mechanics for Engineers: Statics and Dynamics, McGraw-Hill, 2010.
3. Meriam J.L., Kraige L.G. Engineering Mechanics: Dynamics, 7th Edition. John Wiley & Sons, Inc., 2012.
4. Tongue B.H., Kawano D.T. Engineering Mechanics: Dynamics, John Wiley & Sons, Inc., 2017.

DESCRIPTION OF THE COURSE

Name of the course: Computing II	Code: BpIEe13	Semester: 2
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S)	Hours per semester: L – 15 hours S – 0 hours LW – 12 hours	Number of credits: 3

LECTURER(S):

Assoc. prof. eng. Mitko Shopov, PhD (FEA), tel.: 659 765, e-mail: mshopov@tu-plovdiv.bg
Technical University of Sofia, branch Plovdiv

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

AIMS AND OBJECTIVES OF THE COURSE: Upon completion of the course, students must have acquired basic knowledge of data structures and their use in solving computer-based problems in the programming language ANSI C. The course is a prerequisite for the use of computer skills in other disciplines of the program.

DESCRIPTION OF THE COURSE: The main topics concern: Data structures. Arrays. Multidimensional arrays. Pointers and arrays. Character processing. Character strings. Data structures - struct and union. Data Structures - Linked List. Data Structures - Stack. Data Structures - Queue. Data structures - Tree. Data structures - Graph. Data Structures - Hash Tables. Search algorithms. Sorting algorithms.

PREREQUISITES: Mathematics I, Computing I.

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

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

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY: 1. Ralph Stair, George Reynolds. Principles of Information Systems, Boston, USA, 2013; 2. Kernighan, B., D. Ritchie. The C Programming Language, Prentice Hall, 1991; 3. K. N. King. C Programming: A Modern Approach, 2nd Edition, 2008; 4. Carlos Coronel, Steven Morris. Database Systems: Design, Implementation & Management, USA, 2014; 5. Stephen Prata. C Primer Plus (5th Edition), 2004.

DESCRIPTION OF THE COURSE

Name of the course: Electrical Engineering I	Code: BpIEe14	Semester: 2
Type of teaching: Lectures (L) Laboratory work (LW) Seminars (S)	Hours per semester: L – 22 hours S – 15 hours LW – 12 hours	Number of credits: 5

LECTURER(S):

Assoc. Prof. Eng. Vasil Spasov, PhD (FEA), tel.: 032 659-535, e-mail:

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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 Engineering, Professional orientation 5.13 General Engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: To give the students the necessary minimum of theoretical and practical knowledge and skills in electrical engineering. To acquaint the students with the basic laws, methods and theorems for analysis of DC and AC circuits.

DESCRIPTION OF THE COURSE: The main topics concern: DC electric circuits - terms and circuit laws; Resistance, resistors in series and parallel; Magnetic flux, flux density and magnetomotive force; Inductance, magnetic circuits, laws of magnetic circuits; Capacitance, capacitors in series and in parallel; RLC circuits; Kirchoff's laws; Mesh analysis; Node analysis; Thevenin's theorem; Norton's theorem; Superposition theorem; Ideal voltage and current sources; Transients in series RL, RC and RLC circuits; Steady state modes in AC circuits; Root mean square values; Phasors, j notation and application to electric circuits; Circuit theorems, power in AC circuits using j notation; Series resonance; Three-phase circuits; Generation of three-phase voltages; Star and delta connections, voltage and current relationships; Power in three-phase circuits; Measurement of three-phase power.

PREREQUISITES: Mathematics and Physics.

TEACHING METHODS: Lectures, seminars and laboratory work. The lectures are delivered using multimedia. The laboratory exercises are provided with a manual and are carried out in a laboratory with developed models and stands. The students prepare for every exercise an individual protocol that is defended before the supervising lecturer.

METHOD OF ASSESSMENT: Two one-hour written continuous assessments in the middle and the end of the semester (70% in total), laboratory work (30%).

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY: 1. Mladenov V., S. Vladov. Theory of Electrical Engineering, P.H. "KING", 2015; 2. Mladenov V., S. Vladov. Electrical Engineering, P.H. "KING", 2013; 3. Gourov N. Laboratory Practicals Manual on Electrical Engineering I, Publishing House of the Technical University – Sofia, 2007; 4. Hayt W. H., J. E. Kemmerly, S. M. Durbin. Engineering circuit analysis – 8th ed., McGraw-Hill Companies, Inc., 2012; 5. Alexander C. K. and M. O. Sadiku. Fundamentals of Electric Circuits – 5th ed., McGraw-Hill Companies, Inc., 2012; 6. Bell A. C. and Whitehead R. W. Basic Electrical and Electronic Engineering, Blackwell scientific publications, 1993; 7. Fogiel M., The Electric Circuits Problem Solver, New Jersey, 2012.

DESCRIPTION OF THE COURSE

Name of the course: Electronics I	Code: BpIEe15	Semester: 2
Type of teaching: Lectures (L) Laboratory work (LW)/Seminars (S) Course work (CW)	Hours per semester: L – 22 hours S – 0 hours LW – 12 hours	Number of credits: 4

LECTURER(S):

Assist. Prof. Eng. Ivan Maradzhiev, PhD (FEA), tel.: 032 659 776, e-mail: iv_mar@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 Engineering, Professional orientation 5.13 General Engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: At the end of the course, students should be familiar with the fundamental of electronics, its modern component base, and its application in the industrial aspect. Students will know the principles of operation of discrete and integrated semiconductor devices, will be able to apply them to build basic analog circuits for a specific purpose and to build and analyze electronic circuits.

DESCRIPTION OF THE COURSE: The main topics concern: Introduction to Semiconductors; Diodes and Applications; Special-Purpose Diodes; Bipolar Junction Transistors; Transistor Bias Circuits; BJT Amplifiers; Field-Effect Transistors (FETs); FET Amplifiers and Switching Circuits; Amplifier Frequency Response; Feedback in electronic amplifiers; Passive filters – low-pass filter, high-pass filter and band-pass filter; The Operational Amplifier; Basic Op-Amp Circuits; Active Filters; Manufacturing process of semiconductor devices

PREREQUISITES: Mathematics, Physics, Chemistry, Electrical Engineering;

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: One one-hour assessment at the end of the semester (62%), laboratories (18%), course work - two off assignments (20%).

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY: 1. Albert Paul Malvino, Electronic Principles, 4th edition, McGraw & Hill Book Co., 1989; 2. Storey Neil. Electronics. A System Approach, UK Addison Wesley, 1992 r.; 3. P. Horowitz, W. Hill, The Art of Electronics, Cambridge University Press, 1998; 4. Robert Boylestad, Louis Nashelsky, Electronic Devices and Circuit Theory, 4th edition, Prentice Hall International, 1988; 5. R. J. Maddock, D. M. Calcuft. Electronics, A Course for Engineers, 1988; 6. Theodor F. Bogart, Electronic Devices and Circuits, 1992;

DESCRIPTION OF THE COURSE

Name of the course: Materials Science	Code: BpIEe16	Semester: 2
Type of teaching: Lectures (L) Laboratory work (LW)	Hours per semester: L – 22 hours LW – 15 hours	Number of credits: 3

LECTURER(S):

Assoc. Prof. Eng. Georgi Levicharov, PhD (FME), tel.: 659 624, e-mail: glevi@tu-plovdiv.bg

Assist. Prof. Eng. Konstantin Chukalov, PhD (FME), tel.: 659 617, e-mail: chukalov@tu-plovdiv.bg

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

AIMS AND OBJECTIVES OF THE COURSE: At the end 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 main topics concern: Construction of alloys, the methods of researching and testing them, the condition diagrams, the phase conversion into liquid and hard state. The methods of improving the materials' properties by mechanical, thermal and chemical and thermal forces.

PREREQUISITES: Physics I and II, Chemistry.

TEACHING METHODS: Lectures, using slides, laboratory work with protocols.

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

INSTRUCTION LANGUAGE: English

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

COURSE DESCRIPTION

Course Title English Language	Code: BpIEe17	Semester: 2
Type of Teaching: Seminars (S)	Contact hours per semester: S – 30 hours	Number of credits: 2

LECTURERS:

Sen. Lect. Konstantina Nyagolova (FME, English)
Sen. Lect. Nadya Popova (FME, English)
Sen. Lect. Anet Arabadjieva (FME, English)
Sen. Lect. Nadezhda Geshanova (FME, English)
Sen. Lect. Dr Daniela Valeva (FME, English)

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COURSE STATUS IN THE CURRICULUM: Compulsory course in the curriculum of the *Bachelor Degree Programme in Industrial Engineering*, Professional qualification 5.13 General Engineering, Professional field 5 Technical Sciences.

COURSE OBJECTIVES: The course is targeted at providing basic knowledge and skills in the area of academic writing, listening and reading; expanding and ensuring appropriate use of basic engineering terminology in English; familiarising students with the requirements of international academic exams.

COURSE DESCRIPTION: The main topics include: Basic terminology – English for Science and Technology; International exams at CAE level; Academic writing skills; Academic reading and listening skills; Essay writing; Writing abstracts and summaries; Writing definitions; Referencing and quoting; Describing tables and graphs; Academic English language practice – word-formation, punctuation, signposting, functional exponents, cohesive devices, verb tenses, style, abbreviations.

PREREQUISITES: English language competence at level B2–C1 as per EFL entrance requirements.

TEACHING METHODS: Seminars and discussions, case studies, course work portfolio, group work, independent work.

METHODS OF TESTING AND EVALUATION: Evaluation is based on continuous assessment.

LANGUAGE OF INSTRUCTION: English

LITERATURE RECOMMENDED:

1. *Advanced Expert CAE*, Jan Bell, Roger Gower, Pearson Education Ltd
2. *Ready for Advanced*, Roy Norris, Amanda French, Macmillan
3. *Technical English*, Pearson Longman
4. *Business Vocabulary in Use*, Cambridge University Press
5. *Intelligent Business*, Irene Barall, Nikolas Barall, Pearson

DESCRIPTION OF THE COURSE

Name of the course: Introduction to Manufacturing and Industrial Practice II	Code: BpIEe18	Semester: 2
Type of teaching: Self-Study (SS)	Hours per semester: SS– 30 hours S- 0 hours LW- 0 hours	Number of credits: 1

LECTURER(S):

Assoc. Prof. Eng. Georgi Levicharov, PhD (FME), tel.: 659 624, e-mail: glevi@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 Industrial Engineering, Professional orientation 5.13 General Engineering, Field 5 Technical Sciences.

AIMS AND OBJECTIVES OF THE COURSE: To familiarize the students with the basic manufacturing principles, as well as with the problems of the manufacturing enterprises as a technical and economic system. Course material is visualized with appropriate video materials and supplemented with visits to manufacturing companies.

DESCRIPTION OF THE COURSE: The main topics concern: Introduction to the specialty; Manufacturing as a technical and economic system; Casting, bulk deformation and sheet metal processing (features, types, equipment, products); Powder metallurgy (processes, equipment, products); Metal machining operations (features, types, equipment, products); CNC machines (elements, types of control, programming requirements); Assembly processes (types, ways, requirements, products); Production automation (basic principles, elements, trends of development); Production system efficiency.

PREREQUISITES: Physics, Applied Geometry and Engineering Graphics, Materials Science.

TEACHING METHODS: No.

METHOD OF ASSESSMENT: Assessments at end of semester .

INSTRUCTION LANGUAGE: English

BIBLIOGRAPHY: 1. Bedworth D., M. Henderson, P. Wolfe, Computer-Integrated Design and Manufacturing, McGraw-Hill, Inc., New York, 1991; 2. Eef Moeskopf, Frits Feenstra, Introduction to Rapid Prototyping, CHAPTER 5, Online ISBN: 978-1-84628-856-2, http://link.springer.com/chapter/10.1007%2F978-1-84628-856-2_5?LI=true, 2004; 3. Emad Abouel Nasr, Ali K. Kamrani, Computer-Based Design and Manufacturing, CHAPTER 11, Online ISBN: 978-0-387-23324-6, http://link.springer.com/chapter/10.1007/978-0-387-23324-6_11, 2007; 4. Mikell P Groover, Fundamentals of Modern Manufacturing: Materials, Processes and Systems - 4th Edition, ISBN-10: 1118231465, ISBN-13: 978-1118231463; 5. Rajender Singh, Introduction to Basic Manufacturing Processes And Workshop Technology, <http://ebookbrowse.com/introduction-to-basic-manufacturing-processes-and-workshop-technology - pdfd194060203>.

DESCRIPTION OF THE COURSE

Name of the course: Sport	Code: BpIEe19	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 Vladimirov, 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_spasov@tu-plovdiv.bg

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COURSE STATUS IN THE CURRICULUM: Compulsory subject from the curricula for training of students to obtain Bachelor's degree, specialties “INDUSTRIAL ENGINEERING in English”, 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 curriculum presumes the minimum of knowledge and skills acquired at secondary school.

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

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

INSTRUCTION LANGUAGE: Bulgarian

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

COURSE DESCRIPTION

Course Title: Bulgarian Language for Foreign Students I	Code: FaBpIEe01	Semester: 1
Type of Teaching: seminars	Teaching hours per semester: 30	Number of credits: 2

LECTURERS:

Senior Lecturer Anet Arabadzieva

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COURSE STATUS IN THE CURRICULUM: Optional course in the curriculum of the *Bachelor Degree Programme in Industrial Engineering*, 5.13. General Engineering, 5. Science, Engineering and Technology Higher-Education Area of study.

COURSE OBJECTIVES: The course intends to provide foreign students with a thorough grounding in the basics of Bulgarian language. Upon course completion students are expected to have developed basic grammar and lexical competencies as well as practical language skills, such as listening comprehension and speaking, required for effective communication.

COURSE DESCRIPTION: The course focuses on developing the four essential language skills – listening, speaking, reading and writing in the context of everyday situations. It comprises a number of lexical resources on different topics coupled with presentation of fundamental grammatical categories, a wide range of lexical and grammar exercises, reading and listening comprehension tasks and communicative activities.

PREREQUISITES: No

TEACHING METHODS: Seminars targeted at developing the four key language skills through individual and team work, including the use of audio-visual equipment

METHOD OF ASSESSMENT: Evaluation is based on continuous assessment and an end-of-term test.

LANGUAGE OF INSTRUCTION: English and Bulgarian

LITERATURE RECOMMENDED:

1. Хаджиева Е., Гарибова Н., Ефтимова А., Пацева М., Слущка А., Български език за чужденци Общ курс, Университетско издателство „Св. Климент Охридски”
2. Петрова С., Цанкова П., Куртева Е., Томова К., Илиев И., Учете български език, 1 ниво, Издателство „Д-р Иван Богоров”

COURSE DESCRIPTION

Course Title: Bulgarian Language for Foreign Students II	Code: FaBpIEe02	Semester: 2
Type of Teaching: seminars	Teaching hours per semester: 30	Number of credits: 2

LECTURERS:

Telephone:

E-mail:

Senior Lecturer Anet Arabadzieva

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COURSE STATUS IN THE CURRICULUM: Optional course in the curriculum of the *Bachelor Degree Programme in Industrial Engineering*, 5.13. General Engineering, 5. Science, Engineering and Technology Higher-Education Area of study.

COURSE OBJECTIVES: The course intends to provide foreign students with a thorough grounding in the basics of Bulgarian language. Upon course completion students are expected to have developed basic grammar and lexical competencies as well as practical language skills, such as listening comprehension and speaking, required for effective communication.

COURSE DESCRIPTION: The course focuses on developing the four essential language skills – listening, speaking, reading and writing in the context of everyday situations. It comprises a number of lexical resources on different topics coupled with presentation of fundamental grammatical categories, a wide range of lexical and grammar exercises, reading and listening comprehension tasks and communicative activities.

PREREQUISITES: No

TEACHING METHODS: Seminars targeted at development of the four language skills through individual and team work, including the use of audio-visual equipment.

METHOD OF ASSESSMENT: Evaluation is based on continuous assessment and an end-of-term test.

LANGUAGE OF INSTRUCTION: English and Bulgarian

LITERATURE RECOMMENDED:

1. Хаджиева Е., Гарибова Н., Ефтимова А., Пацева М., Слущка А., Български език за чужденци Общ курс, Университетско издателство „Св. Климент Охридски”
2. Петрова С., Цанкова П., Куртева Е., Томова К., Илиев И., Учете български език, 1 ниво, Издателство „Д-р Иван Богоров”