

# Courses Description & Study Plan for Medical Preparatory Year

Name:

Year:



Head of Attendance  
Monitoring Department

General Supervisor of  
Medical Preparatory Year





## Study Plan of Medical Preparatory Year

Based on the decision of the Higher Education Council No. /310/

The study plan of the Medical Preparatory Year in the schools of (Medicine / Dentistry / Pharmacy) in government universities is adopted as follows

<b>Medical Preparatory Year in the schools of (Medicine / Dentistry / Pharmacy)</b>			
<b>First Semester</b>			
<b>Course Name</b>	<b>Hours per Week</b>		
	<b>Theoretical</b>	<b>Practical</b>	<b>Total</b>
1) Physics	3	2	5
2) Chemistry	4	2	6
3) Cell Biology	3	2	5
4) History of Medical Sciences	2	-	2
5) English Language (1)	2	-	2
<b>Total Hours</b>	<b>14</b>	<b>6</b>	<b>20</b>
<b>Second Semester</b>			
<b>Course Name</b>	<b>Hours per Week</b>		
	<b>Theoretical</b>	<b>Practical</b>	<b>Total</b>
1) Anatomy	3	2	5
2) Medical Physiology	3	2	5
3) Medical Statistics	2	2	4
4) Genetics	2	-	2
5) English Language 2	2	-	2
<b>Total Hours</b>	<b>12</b>	<b>6</b>	<b>18</b>

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## 1<sup>st</sup> Course: Physics

### Course Title And Code:

**Physics.**

### Credit Hours:

**3 theoretical hours/week - 2 practical hours/week.**

### Level/Year At Which This Course Is Offered:

**1<sup>st</sup> semester.**

### Course Description:

- **Principles Of Modern Physics.**
- **Atomic Structure - Atomic Characteristics.**
- **Light Science.**
- **UV.**
- **X-Ray And Its Applications.**
- **Thermal Radiation (Infrared).**
- **Terahertz Waves Or Terahertz Rays.**
- **Microwave Waves.**
- **Types And Characteristics Of Lasers.**
- **Laser Imaging.**
- **Laser Applications.**
- **Nucleic Structure And Nuclear Properties.**
- **Radionuclides And Nuclear Medicine.**
- **Material And Hydrodynamics.**
- **Vibration And Wavelet Movements.**
- **Sound: Emission, Hearing And The Sub-Audible Sounds.**
- **Echo Imaging.**
- **Doppler Effect And Blood Velocity Measurement.**
- **Gravel Cutter And Acoustic Power.**
- **Photographic Flexibility In Ultrasound.**
- **Generation Of Magnetic Fields And Properties Of Magnetic Material.**
- **Nuclear Magnetic Response And Magnetic Response Imaging.**
- **Superconductivity: Origin And Applications.**

### Educational Outputs The Student Should Acquire:

- 1- Knowledge and understanding of course topics.**
- 2- Practical applications.**
- 3- Developing logical judgment - communication skills.**

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#### **4- Ability to analyze and managing data.**

##### **Teaching & Training Methods:**

**1 Theoretical course.**

**2 Practical training.**

**3 Educational multi-media tools.**

##### **Assessment Strategy And Credits:**

**100 credits:**

**Practical examination 30 credits:**

**Through practical evaluation and laboratory experiments.**

**Evaluation of theoretical Knowledge 70 credits:**

**Automated examination at the end of the semester.**



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## **2<sup>nd</sup> Course: Chemistry**

### **Course Title And Code:**

**Chemistry.**

### **Credit Hours:**

**4 theoretical hours/week - 2 practical hours/week.**

### **Level/Year At Which This Course Is Offered:**

**1<sup>st</sup> semester.**

### **Course Description:**

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• <b>Mol And Equations.</b></li><li>• <b>Atomic Structure.</b></li><li>• <b>Electrons In Atoms.</b></li><li>• <b>Chemical Bonding.</b></li><li>• <b>States Of Matter.</b></li><li>• <b>Enthalpy Changes.</b></li><li>• <b>Oxidation, Reaction And Electrolysis Reactions.</b></li><li>• <b>Equilibrium.</b></li><li>• <b>Interaction Velocity.</b></li><li>• <b>Periodic.</b></li><li>• <b>Nitrogen And Sulfur.</b></li><li>• <b>Introduction To Organic Chemistry.</b></li></ul> | <ul style="list-style-type: none"><li>• <b>Hydrocarbons.</b></li><li>• <b>Halogenated Alkanes.</b></li><li>• <b>Alcohols And Esters.</b></li><li>• <b>Carbonyl Compounds.</b></li><li>• <b>Ion Balance.</b></li><li>• <b>Kinetics Of Interactions.</b></li><li>• <b>Transition Metals.</b></li><li>• <b>Benzene And Its Compounds.</b></li><li>• <b>Carboxylic Acids.</b></li><li>• <b>Organic Nitrogen Compounds.</b></li><li>• <b>Polymerization.</b></li><li>• <b>Biochemistry.</b></li><li>• <b>Design And Materials.</b></li></ul> |
|---|---|

### **Educational Outputs The Student Should Acquire:**

- 1- Knowledge and understanding of course topics.**
- 2- Practical applications.**
- 3- Developing logical judgment - communication skills.**
- 4- Ability to analyze and managing data.**

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**Teaching & Training Methods:**

**1 Theoretical course.**

**2 Practical training.**

**3 Educational multi-media tools.**

**Assessment Strategy And Credits:**

**100 credits:**

**Practical examination 30 credits:**

**Through practical evaluation and laboratory experiments.**

**Evaluation of theoretical Knowledge 70 credits:**

**Automated examination at the end of the semester.**







## **3<sup>rd</sup> Course: Cell Biology**

### **Course Title And Code:**

**Cell Biology.**

### **Credit Hours:**

**3 theoretical hours/week - 2 practical hours/week.**

### **Level/Year At Which This Course Is Offered:**

**1<sup>st</sup> semester.**

### **Course Description:**

- **Introduction To Cell Biology.**
- **Biochemical Structure Of The Cell.**
- **Structure And Function Of Cell Organelles.**
- **Structure And Function Of The Nucleus.**
- **Cell Membrane.**
- **The Cytoskeleton: Structure, Function, And Cell Locomotion.**
- **Cell Adhesion.**
- **Cell Energetics.**
- **Mitosis And Cell Cycle.**
- **Miosis And Chromosomes Inheritance.**
- **Cell Signaling.**
- **Differentiation, Stem Cells And Apoptosis.**

### **Educational Outputs The Student Should Acquire:**

- 1- Knowledge and understanding of course topics.**
- 2- Practical applications.**
- 3- Developing logical judgment - communication skills.**
- 4- Ability to analyze and managing data.**

### **Teaching & Training Methods:**

- 1 Theoretical course.**
- 2 Practical training.**
- 3 Educational multi-media tools.**

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**Assessment Strategy And Credits:**

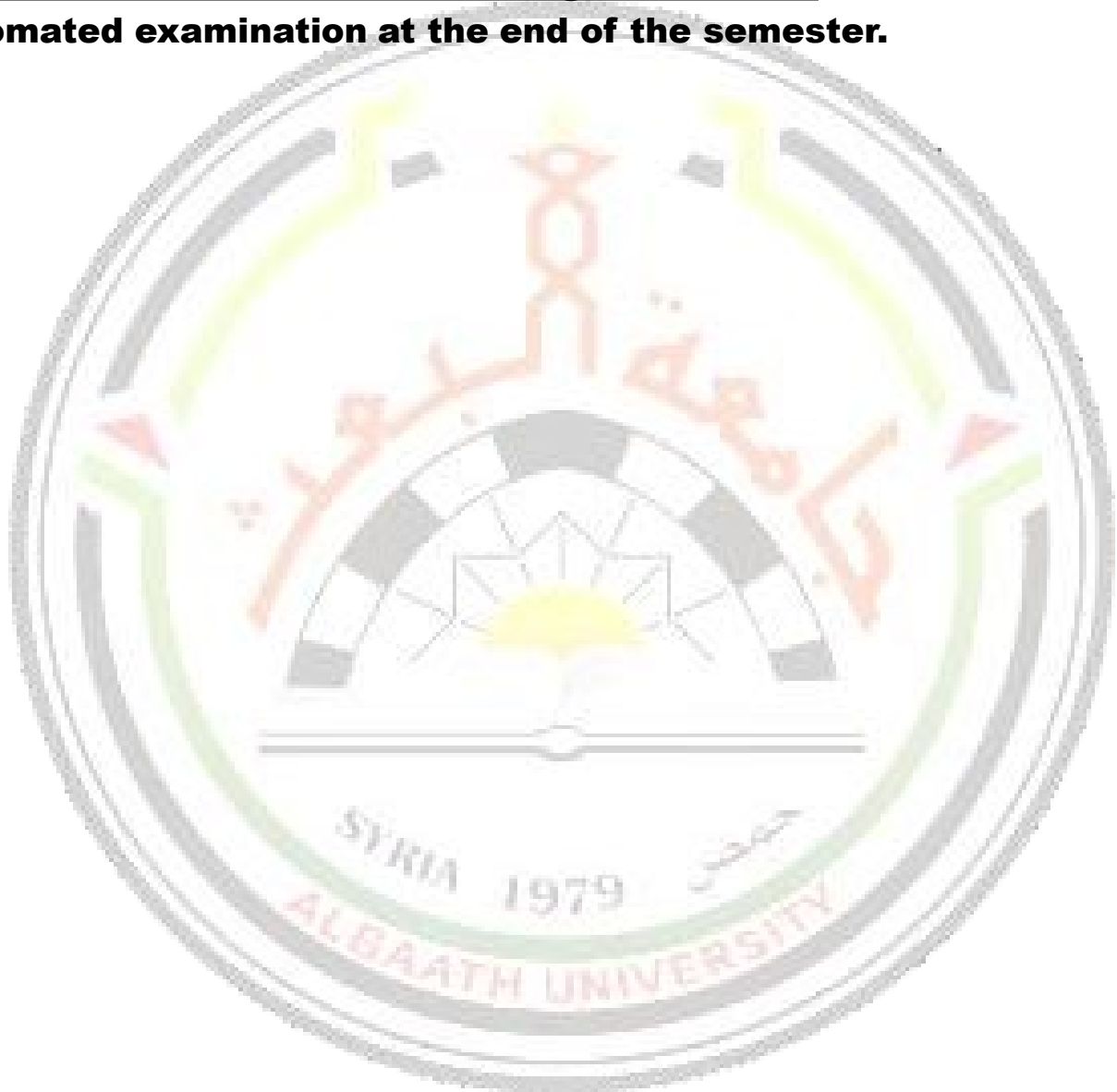
**100 credits:**

**Practical examination 30 credits:**

**Through practical evaluation and laboratory experiments.**

**Evaluation of theoretical Knowledge 70 credits:**

**Automated examination at the end of the semester.**





## **4<sup>th</sup> Course: History Of Medical Sciences**

**Course Title And Code:**

**History Of Medical Sciences.**

**Credit Hours:**

**2 theoretical hours/week.**

**Level/Year At Which This Course Is Offered:**

**1<sup>st</sup> semester.**

**Course Description:**

- **History of Medical Sciences in Ancient Civilizations.**
- **Medical Sciences in Arab and Islamic Civilization.**
- **Evolution of medical sciences in Europe and America.**
- **The evolution of science in the world (the stage of micro-medical specialties).**
- **History of medical sciences in modern and contemporary history (from the 16th century until today).**

**Educational Outputs The Student Should Acquire:**

**1- Knowledge and understanding of course topics.**

**2- Ability to analyze and managing data.**

**Teaching & Training Methods:**

**1 Theoretical course.**

**2 Educational multi-media tools.**

**Assessment Strategy And Credits:**

**100 credits:**

**Evaluation of theoretical Knowledge 100 credits:**

**Automated examination at the end of the semester.**

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## **5<sup>th</sup> Course: English Language (1)**

**Course Title And Code:**

**English Language (1).**

**Credit Hours:**

**2 theoretical hours/week.**

**Level/Year At Which This Course Is Offered:**

**1<sup>st</sup> semester**

**Educational Outputs The Student Should Acquire:**

**1- Knowledge and understanding of course topics.**

**2- Ability to analyze and managing data.**

**Teaching & Training Methods:**

**1 Theoretical course.**

**2 Educational multi-media tools.**

**Assessment Strategy And Credits:**

**100 credits:**

**Evaluation of theoretical Knowledge 100 credits:**

**Automated examination at the end of the semester.**



## **6<sup>th</sup> Course: Anatomy**

### **Course Title And Code:**

**Anatomy.**

### **Credit Hours:**

**3 theoretical hours/week - 2 practical hours/week.**

### **Level/Year At Which This Course Is Offered:**

**2<sup>nd</sup> semester.**

### **Course Description:**

- **Introduction In General Anatomy.**
- **Skeleton Bones And Joints.**
- **Muscular System.**
- **Respiratory System.**
- **Cardiovascular System.**
- **Digestive System.**
- **Urinary System.**
- **Reproductive System.**
- **Central Nervous System.**
- **Peripheral Nervous System.**
- **Sensory Organs.**

### **Educational Outputs The Student Should Acquire:**

- 1- Knowledge and understanding of course topics.**
- 2- Practical applications.**
- 3- Developing logical judgment - communication skills.**
- 4- Ability to analyze and managing data.**

### **Teaching & Training Methods:**

- 1 Theoretical course.**
- 2 Practical training.**
- 3 Educational multi-media tools.**

### **Assessment Strategy And Credits:**

**100 credits:**

**Practical examination 30 credits:**

**Through practical evaluation and laboratory experiments.**

**Evaluation of theoretical Knowledge 70 credits:**

**Automated examination at the end of the semester.**



## **7<sup>th</sup> Course: Medical Physiology**

### **Course Title And Code:**

**Medical Physiology.**

### **Credit Hours:**

**3 theoretical hours/week - 2 practical hours/week.**

### **Level/Year At Which This Course Is Offered:**

**2<sup>nd</sup> semester.**

### **Course Description:**

- **Introduction To Physiology.**
- **Physiology Of Excitable Tissues.**
- **The Blood.**
- **Autonomic Nervous System.**
- **The Heart.**
- **Circulatory System.**
- **Respiratory System.**
- **Urinary System.**
- **Metabolism And Energy Balance.**
- **Digestive System.**
- **Endocrine System.**
- **Nervous System.**

### **Educational Outputs The Student Should Acquire:**

- 1- Knowledge and understanding of course topics.**
- 2- Practical applications.**
- 3- Developing logical judgment - communication skills.**
- 4- Ability to analyze and managing data.**

### **Teaching & Training Methods:**

- 1 Theoretical course.**
- 2 Practical training.**
- 3 Educational multi-media tools.**

### **Assessment Strategy And Credits:**

**100 credits:**

**Practical examination 30 credits:**

**Through practical evaluation and laboratory experiments.**

**Evaluation of theoretical Knowledge 70 credits:**

**Automated examination at the end of the semester.**

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## **8<sup>th</sup> Course: Medical Statistics**

### **Course Title And Code:**

**Medical Statistics.**

### **Credit Hours:**

**2 theoretical hours/week - 2 practical hours/week.**

### **Level/Year At Which This Course Is Offered:**

**2<sup>nd</sup> semester.**

### **Course Description:**

- **Introduction To Statistics And Biomedical Statistics.**
- **Types Of Variables And Measurement Scales.**
- **Methods Of Data Collection.**
- **Means Of Summarizing And Presenting Data.**
- **The Population And The Sample.**
- **Related Distributions.**
- **Statistical Inference And Hypothesis Testing.**
- **Comparison Of Averages And Ratios.**
- **Interdependence And Forecasting.**
- **Sources Of Data Collection.**
- **Population And Health Sciences.**
- **Medical Records.**

### **Educational Outputs The Student Should Acquire:**

- 1- Knowledge and understanding of course topics.**
- 2- Practical applications.**
- 3- Developing logical judgment - communication skills.**
- 4- Ability to analyze and managing data.**

### **Teaching & Training Methods:**

- 1 Theoretical course.**
- 2 Practical training.**
- 3 Educational multi-media tools.**

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**Assessment Strategy And Credits:**

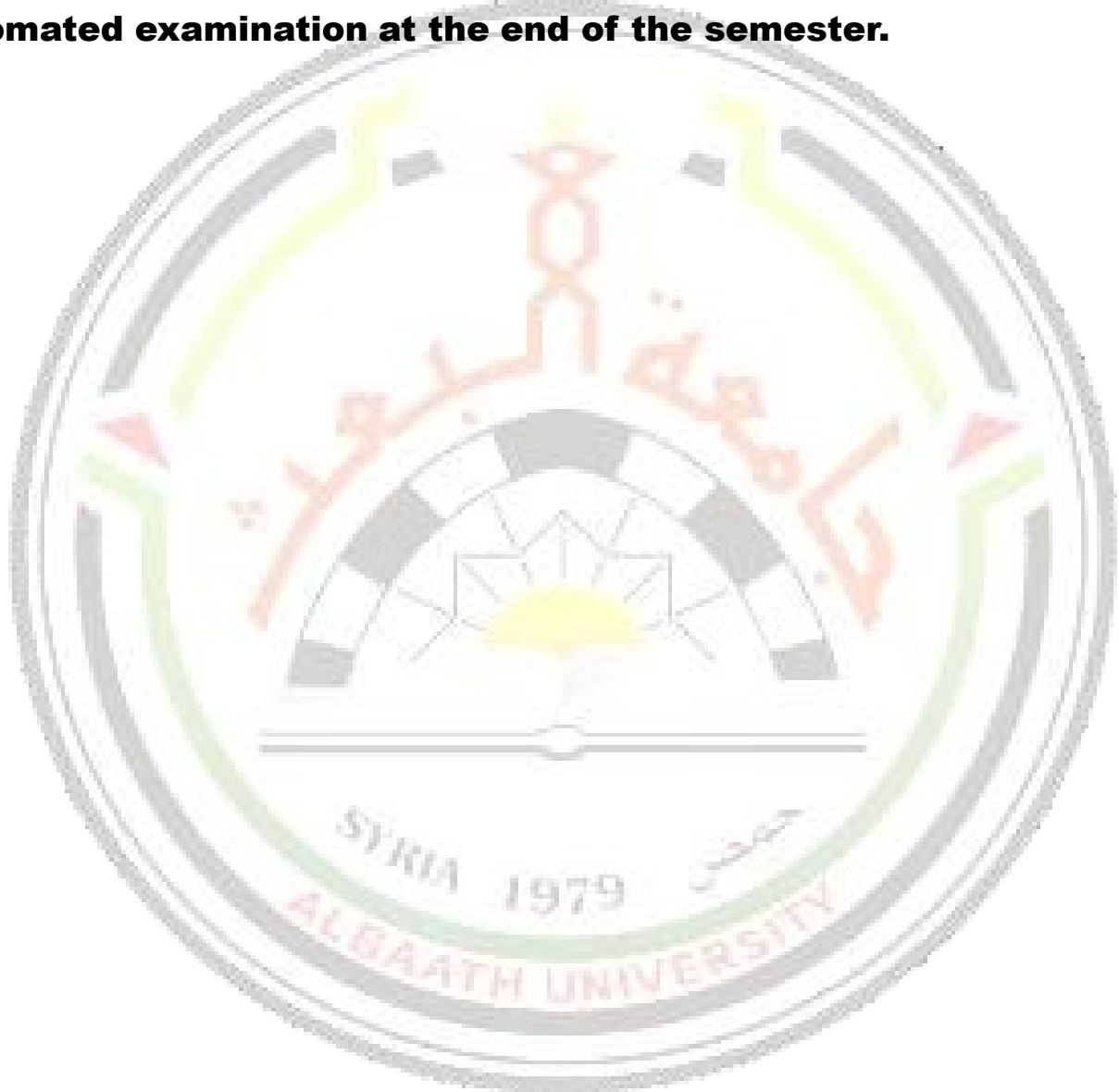
**100 credits:**

**Practical examination 30 credits:**

**Through practical evaluation and laboratory experiments.**

**Evaluation of theoretical Knowledge 70 credits:**

**Automated examination at the end of the semester.**







## **9<sup>th</sup> Course: Genetics**

### **Course Title And Code:**

**Genetics.**

### **Credit Hours:**

**2 theoretical hours/week.**

### **Level/Year At Which This Course Is Offered:**

**2<sup>nd</sup> semester.**

### **Course Description:**

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• <b>Introduction To Medical Genetics.</b></li><li>• <b>Mendelian Inheritance.</b></li><li>• <b>Non-Mendelian Inheritance.</b></li><li>• <b>Genetic Material And Chromosomes.</b></li><li>• <b>DNA Replication.</b></li><li>• <b>Transcription.</b></li><li>• <b>Translation And Protein Synthesis.</b></li><li>• <b>Regulation Of Gene Expression.</b></li></ul> | <ul style="list-style-type: none"><li>• <b>Genetic Engineering Technology.</b></li><li>• <b>Human Genome.</b></li><li>• <b>Chromosomes Abnormality (Aberrations).</b></li><li>• <b>Genetic Counseling.</b></li><li>• <b>Immunogenetics.</b></li><li>• <b>Pharmacogenetics.</b></li><li>• <b>Cancer Genetics.</b></li><li>• <b>Human Population Genetics.</b></li><li>• <b>Genetics Of Common Diseases.</b></li></ul> |
|---|--|

### **Educational Outputs The Student Should Acquire:**

- 1- Knowledge and understanding of course topics.**
- 2- Ability to analyze and managing data.**

### **Teaching & Training Methods:**

- 1 Theoretical course.**
- 2 Educational multi-media tools.**

### **Assessment Strategy And Credits:**

**100 credits:**

**Evaluation of theoretical Knowledge 100 credits:**

**Automated examination at the end of the semester.**

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## **10<sup>th</sup> Course: English Language (2)**

**Course Title And Code:**

**English Language (2).**

**Credit Hours:**

**2 theoretical hours/week.**

**Level/Year At Which This Course Is Offered:**

**2<sup>nd</sup> semester**

**Educational Outputs The Student Should Acquire:**

**1- Knowledge and understanding of course topics.**

**2- Ability to analyze and managing data.**

**Teaching & Training Methods:**

**1 Theoretical course.**

**2 Educational multi-media tools.**

**Assessment Strategy And Credits:**

**100 credits:**

**Evaluation of theoretical Knowledge 100 credits:**

**Automated examination at the end of the semester.**