



Co-funded by the  
Erasmus+ Programme  
of the European Union



### Course Package “Banking information systems and electronic banking”

<b>Work Package</b>	WP3: Development of Course Materials for the Reformed MA Programmes, Deliverable 3.1
<b>Author(s)</b>	Armen Ghazaryan
<b>E-mail Address</b>	armenghazaryan@mail.ru
<b>Institution</b>	Gavar State University(GSU)



## Document History

Version	Date	Author(s)	Description
1	27.12.2019	Armen Ghazaryan	Draft 1
2	27/01/2020	Olivier BRUNO	Draft 2
3	30.01.2020	Armen Ghazaryan	Draft 3
4	31.01.2020	Olivier BRUNO	Draft 4
5	05.02.2020	Armen Ghazaryan	Draft 5
6	02.06.2020	Armen Ghazaryan	Final Version

### Disclaimer:

*This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

**Content**

- 1. General information about the course.....4
- 2. Learning outcomes of the course.....5
- 3. Syllabus of the course.....5
- 4. Teaching methodology of the course.....5
- 5. Labour market relevance of the course.....8
- 6. Assessment.....9
- 7. References.....9
- 8. Course assignments.....10
  - 8.1 Assignment 1.....10
  - 8.2 Assignment 2.....10
- Annex: Presentation slides.....10

## 1. General information about the course

Explanation: Please fill in the table below.

<b>Title of the course (as specified in the reformed curriculum)</b>	Banking information systems and electronic banking
<b>Name of the teacher</b>	Armen Ghazaryan
<b>Novelty of the course (please select as appropriate)</b>	This course is an updated and revised version of a course which already existed in the curriculum
<b>Year of the course in the curriculum</b>	2 <sup>st</sup>
<b>Semester of the course in the curriculum</b>	1 <sup>nd</sup>
<b>Language of instruction of the course</b>	Armenian/English
<b>Number of ECTS credits</b>	3

## 2. Learning outcomes of the course

At the end of the course the student learns

/ Knowledge/

1. To know the components of information technologies used in banking and the directions of their application.
2. Basic knowledge of modern network environments and information transfer technologies
3. To know some skills of big data and SQL language technologies in the bank sector

At the end of the course the student will be able to:

/Opportunity./

4. Student will be able to assess the electronic banking and features of banking risks and management principles.
5. The manifestation of stable knowledge and the ability to constantly learn, the justification of their own point of view,
6. Teamwork and opportunities to communicate with the professional community

At the end of the course the student will own

/ Skill/

7. To Apply OLAP analysis system in banking sector
8. Students will be able to estimate the risk of management of e-banking activities
9. Student will be able to use variety of online banking security.

## 3. Syllabus of the course

WEEKS	TOPIC
1-2	<p><b>Problems and prospects of information technologies development in the banking sector</b></p> <p>1.1. Essence, components and directions of application of information technologies applied in banking.</p> <p>1.2. An assessment of information and communication technology effectiveness in the banking sector.</p>

	<p>1.3.E -commerce, e-banking &amp; e-shopping</p> <p>1.4. Commerce refers to all the activities the purchase and sales of goods or services.</p> <p>1.5 Electronic commerce is doing commerce with the use of computers, networks and commerce-enabled software (more than just online shopping).</p> <p>1.6. Strategy of enhancing competitive advantages of a commercial bank based on an innovative approach.</p> <p>1.7. Prospects of development of electronic banking in the Republic of Armenia</p> <p>1.8. Problems of electronic banking system control.</p> <p>1.9. Legal regulation of electronic banking.</p>
<b>3-4</b>	<p><b>Big Data analytics in the banking sector</b></p> <p>2.1 Big data (big data) fundamentals of analysis.</p> <p>2.2. Data Mining technology on the Microsoft platform (Excel + SQL Server): working with the project.</p> <p>2.3. Basic concepts of SQL language: data manipulation language in SQL: definition and completeness of restrictions: basic concepts of SQL language:</p> <p>2.4. Analysis, forecasting, management decision-making due to OLAP technologies.</p>
<b>5-6</b>	<p><b>Technologies used in the electronic banking system</b></p> <p>3.1. Classifications of electronic banking technologies.</p> <p>3.2. Internet banking in the electronic banking system.</p> <p>3.3. Categories of Internet banking systems.</p> <p>3.4. Internet banking for corporate and private clients.</p> <p>3.5. Internet banking systems in the world.</p> <p>3.6. Mobile Banking.</p>
<b>7-8</b>	<p><b>Online payment systems</b></p> <p>4.1. The uptake of online payments.</p> <p>4.2. Uptake in selected countries and regions.</p> <p>4.3. Characteristics of online payment systems, account-based systems.</p> <p>4.4. Credit and Debit cards.</p> <p>4.5. Mobile payment and telephony account systems.</p> <p>4.6. Payment via online banking.</p> <p>4.7. Electronic currency systems.</p> <p>4.8. Smart card systems, online cash systems.</p> <p>4.9. Micropayments, different micropayment systems.</p>
<b>9-11</b>	<p><b>Risk management of e-banking activities</b></p> <p>5.1. Influence of electronic banking on the structure of banking risks.</p> <p>5.2. Electronic banking and features of banking risks and management principles.</p>

	<p>5.3 Economic efficiency of introduction and application of Internet technologies in banking.</p> <p>5.4. Problems of profitability of the electronic banking system.</p> <p>5.5. Credit Risk Liquidity, Interest Rate, Price/Market Risks.</p> <p>5.6. Compliance/Legal Risk.</p> <p>5.7 Strategic Risk.</p> <p>5.8. Reputation Risk.</p> <p>5.9. E-Banking Strategy</p>
<b>12-14</b>	<p><b>Online Banking Security</b></p> <p>6.1 Secure Communication.</p> <p>6.2. Password authentication.</p> <p>6.3. One-time Passwords.</p> <p>6.4. SSL (Secure Sockets Layer).</p> <p>6.5. Security Tokens.</p> <p>6.6. Implementations.</p> <p>6.7. Chip Authentication Program (CAP)</p> <p>6.8. RSA Secure ID</p> <p>6.9. Open Authentication (OATH)</p>

#### 4. Teaching methodology of the course

This course should be enriched with practical seminars, which will allow students to experience the practical application of obtained knowledge with specific examples on RA and international companies. For example, practical acquaintance with the functionality of Internet banking, view and transactions accounts ability in the system "Internet banking" / "mobile banking", change of payment order data and description of cancellation of transactions according to the client's application via Internet banking system.

<b>1.Lecture:</b>
1.1. Lectures are conducted in the format of presentation of theoretical material using multimedia, group discussion, and analysis of business situations (ahead of time students should be prepared for classes studying materials provided by lecturer).
1.2. Case studies,
1.3. Intellectual games
1.4. Risk overcoming
1.5. Hasty and accurate decision-making
<b>2.Practical sessions:</b>
2.1. Educational dispute;
2.2. Training discussions;
2.3 The method of "brainstorming";
2.4. Analysis of life situations, methods of active learning
<b>3.Self-study sessions:</b>
3.1 Preparation on the lectures
3.2. Preparation seminars
3.3. Preparing a presentation and report
3.4. Preparation for examination
3.5. Preparation of the abstract
3.6. Preparation of a scientific article

## 5. Labour market relevance of the course

In recent years, the volume of information in society and enterprise has increased dramatically. This is due to the increasing pace of science and technology development, the emergence of new technologies and their rapidly changing nature.

Innovative technologies are applied in the banking sector of the Republic of Armenia, which reduces the efficiency of the bank's management activities, making it more efficient. It also allows expanding the range of issues to be resolved, and to increase the level of analytical, reasoning and operability of the decisions made. However, the banking sector needs professionals who are capable of mastering innovative technologies and capable of doing banking management and analytics.

The course includes innovative information technologies applied in the banking sector of the Republic of Armenia, which are necessary for working in this field. According to the



Central Bank of Armenia data for 2019, 85.5% of specialties in the financial market are owned by commercial banks, which indicate their key role and large number of jobs. The endpoints of the subject are tailored to the market demand of the Republic of Armenia, which determines the necessity and relevance of the subject.

## **6. Assessment and grading**

Class participation – 20%

Assignments – 30%

Final exam – 50%

### **Class participation – 20%**

This includes both class attendance and participation. At the end of the semester the student may be assessed for activity (for assigned tasks which he had done during the semester), taking into account the attendance, and if the absence will be more than 20%, it would mean that the student wouldn't be able to get the maximum score for activity, even if he had high marks.

### **Assignments – 30%**

The assessment will be made as follows: for example, in case of individual analysis the lecturer will assess the relevance of analysis to the topic, will also assess its annotation, technical parts, in one word: form of the paper – 15%, paper content – 35%, oral presentation – 50%.

### **Final exam – 50%**

Presentation of the whole material studied within the subject during the semester. There will be examination tickets, each student will get one ticket in accidental principle. The student will have approximately 20-30 minutes for preparing and then will orally answer the questions included in his examination ticket.

## References

### The core literature

1. Makarov S. Yu. Banking operations of the innovative development vector // Orientr. - 2014. - September 12. No. 5, p. 19
2. Devyatov A. S. Electronic money and payment systems. Quick reference. - Moscow: "AST-Press", 2011. - 319 p.
3. Furst K., Lang W.W. and Nolle D.E. Who offers internet Banking? // Quarterly Journal, Office of the Controller of the Currency, 2014 vol. 19, no. 2, June, pp. 27—46

### The complementary literature

4. Yessengeldi N.Y., Golovacheva V.N. Features of implementation and use of information systems// <http://ucom.ru/doc/na.2018.09.02.029.pdf>
5. V. S. Aksenov, Yu. N. Nesterenko, A.V. Osipovskaya and others. Banking in information economy: studies'. manual // M.: Economics, 2012. Pp. 155.
6. Fatyanov, A. //Banking technology. Fundamentals of the theory of "electronic document". -2010. - No. 2. - c10-12

## 7. Course assignments

### 7.1 Assignment 1

#### Control work

Control work (assignment) is carried out on the basis of the questions considered at seminars. The control work consists of some questions, which enable students to test their knowledge of the subject, to understand and analyze the problems existing in the banking system.

### 7.2 Assignment 2

#### Group Work

For group work students are divided into subgroups, with no more than 4 students in each subgroup. They do some research and theme of a topic is agreed with the lecturer in advance. Research is mainly conducted within the context of a master's thesis, analyzing a particular bank or company. With a range of knowledge and skills, students are able to cluster and predict data using the up-to-date technologies. Group work provides students with practical knowledge to help them better understand the subject.

## **Annex: Presentation slides**

Explanation: Please provide presentation slides for your course (this can be done in a separate document, e.g. Power Point (Minimum: 25 slides))