Politehnica University of Bucharest
Faculty of Electronics, Telecommunications and Information Technology

COURSE DESCRIPTION

1. Program identification information

1.1 Higher education institution	Politehnica University of Bucharest
1.2 Faculty	Faculty of Electronics, Telecommunications and Information Technology
1.3 Department	Dept. of Applied Electronics and Information Engineering
1.4 Domain of studies	Electronics and Telecommunications
1.5 Cycle of studies	Bachelor
1.6 Program of studies/Qualification	**Applied Electronics**

2. Course identification information

2.1 Name of the course				Internet Programming Technologies			
2.2 Lecturer				Conf. Dr. Ing. Eduard-Cristian Popovici			
2.3 Instructor for practical activities				Conf. Dr. Ing. Eduard-Cristian Popovici			
2.4 Year of studies	III	2.5 Semester	6	2.6 Evaluation type	Continuous assessment	2.7 Course choice type	At choice

3. Total estimated time (hours per semester for academic activities)

3.1 Number of hours per week, out of which	3	3.2 course	2	3.3 practical activities	1
3.4 Total hours in the curricula, out of which	42	3.5 course	28	3.6 practical activities	14

Distribution of time	hours
Study according to the manual, course support, bibliography and hand notes	14
Supplemental documentation (library, electronic access resources, in the field, etc)	8
Preparation for practical activities, homeworks, essays, portfolios, etc.	10
Tutoring	0
Examinations	4
Other activities	

3.7 Total hours of individual study	36
3.9 Total hours per semester	78
3. 10 Number of ECTS credit points	3

4. Prerequisites (if applicable)

4.1 curricular	Computer Programming, Data Structures and Algorithms, Object-Oriented Programming
4.2 competence-based	General knowledge of programming, working with data structures, pointers, objects, classes, writing object-oriented programs

5. Requisites (if applicable)

5.1 for running the course	None
5.2 for running of the applications	Compulsory attendance at laboratories (under bachelor studies regulation in UPB).

6. Specific competences

Professional competences	The main purpose of this subject is to develop the student abilities to apply general knowledge of programming technologies taught in several categories of projects. After completing this course students will be able to choose the design architecture and software components required, and to achieve concrete programs to meet the requirements formulated.
Transversal competences	Honorable behavior, responsible, ethical, within the law to ensure the reputation of the profession

7. Course objectives (as implied by the grid of specific competences)

7.1 General objective of the course	Discipline aims familiarity with programming technologies widely used in the Internet: desktop (TCP and UDP socket level communications), Web (HTTP server and client technologies), mobile (Android, Windows Phone, etc.), access to databases, using different programming languages: HTML, Java, C #, XML, SQL
4.2 Specific objectives	Laboratory applications aim to help students achieve learning skills and techniques needed to use Internet programming technologies. Programs will be developed in which students will use various programming technologies in the Internet.

8. Content

8.1 Lectures	Teaching techniques	Remarks
Introduction to Programming in Internet technologies	Teaching is based on the use of the projector (covering communication function and demonstration). Course materials are lecture notes and presentations (available electronically through the course website), online tutorials for the last versions of the used languages and software tools.	4 hours
Introduction to Java desktop technologies. Socket level programming		12 hours
Web application programming technologies in various languages		6 hours
Mobile application programming technologies. Programming on Android and Windows platforms (Phone)		6 hours
Bibliography 1) Sabin Buraga, “Tehnologii Web”, Editura Matrix Rom, Bucureşti, 2001 2) Coursenotes in electronic form, http://discipline.elcom.pub.ro/tpi/ 3) Oracle Documentation http://docs.oracle.com/javase/tutorial/java/concepts/ http://docs.oracle.com/javase/7/docs/api/ 4) Android Documentation http://developer.android.com/guide/components/index.html		
8.2 Practical applications	Teaching techniques	Remarks
Development environments basics (NetBeans, Eclipse, etc..)	Teaching is based on completion of essentials of the laboratory platforms. Students implement and evaluate independently the same	2 hours
Socket-level programming Java applications		2 hours
Web programming technologies (1)		2 hours

Mobile Software Technologies (1)	problems with continued use of the computer and software environment. The teaching materials are included in the laboratory platforms and other tutorials.	2 hours
Web programming technologies (2)		2 hours
Mobile Software Technologies (2)		2 hours
Final oral examination		2 hours

Bibliography

1) Sabin Buraga, “Tehnologii Web”, Editura Matrix Rom, Bucureşti, 2001
2) Laboratory platforms in format electronic, http://discipline.elcom.pub.ro/tpi/
3) Oracle Tutorial http://docs.oracle.com/javase/tutorial/
4) Android Tutorial http://developer.android.com/training/basics/firstapp/index.html

9. Bridging the course content with the expectations of the epistemic community representatives, professional associations and employers representatives for the domain of the program

The course syllabus specifically meet these requirements present development and progress subscribed services in the European economy SII Computer Information Technology (CTI). This provides graduates with the appropriate skills and training needs of current scientific skills and modern technical, quality and competitive enabling rapid employment after graduation, being perfectly placed in the University Politehnica of Bucharest policy, both in terms of content and structure and in terms of skills and international openness for students.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Weight in the final mark
10.4 Lectures			
	- Knowledge of fundamental theoretical concepts; - Knowledge of the application of theory to specific problems;	Final computer-based testing, which covers the main taught concepts	50%
10.5 Practical applications			
	- Knowledge of the design of object-oriented program; - Demonstrate the operation of a program implemented	Check functionalities and knowledge on a mini-project created based on examples from laboratory and external tutorials.	50%
10.6 Minimal performance standard			
- Implementing a program based on taught technologies - Use of prototype software to develop more complex software systems			

Date	Lecturer	Instructor for practical activities
15.09.2015	Conf. Dr. Ing. Eduard-Cristian Popovici	Conf. Dr. Ing. Eduard Popovici

Date of department approval
15.09.2015

Director of Department,
Prof. Dr. Ing. Sever Pașca