

Course title: Advanced Web Programming
Course code: 64045
ECTS credits: 6
Requirements: None.
Basic information
Level of studies: Master applied studies
Year of study: 2
Trimester: 4
Goal: Training students to integrate the knowledge acquired in both object-oriented programming and web programming with the aim of creating complex dynamic sites, using advanced development environments.
Outcome: Students should be able to create different types of commercial web applications using PHP object-oriented language in ZEND development environment.
Contents of the course
Theoretical instruction
1. ZEND development environment - Installation
2. Basic principles of work within the environment
3. MVC architecture
4. Web application architecture
5. Zend Framework components: Zend_Layout, Partial View, Helpers, Navigation, Zend_Form, validation, filters, decorators
6. Working with databases: PDO and Zend_Db_Adapter
7. Working with APIs and Web services: Zend_Rest_Client and Zend_Rest_Server
8. Realization of user SMS services through web application and SMS-GateWay
9. Security and data protection, SQL injection, Cross site scripting
10. Site optimization, Code optimization with the aim of faster loading, Conditions for better site ranking on search engines
11. Graphical interfaces
12. Web interfaces
Practical instruction (Problem solving sessions/Lab work/Practical training)
1. Example of MVC architecture
2. POST and GET data transfer

3. Realization of controller and model classes
4. Realization of presentation level
5. Data validation
6. Content localization
7. Creating classes to expand the framework
8. Helper methods, making custom helpers
9. File manipulation
10. Protecting inputs
11. Interaction of JavaScript, jQuery and AJAX into the environment
12. Creating API, Creating web service, Realization of SMS service
Textbooks and References
1. J. Marien, Zend Framework Web Services, Marco Tabini & Associates, 2011.
2. W. J. Gilmore, Easy PHP Websites with the Zend Framework, W.J. Gilmore, 2011.
3. Zend PHP Certification Study Guide, Sams Publishing, 2005.
4. C. Henderson, Building Scalable web sites, O' Reilly, 2006.
Number of active classes (weekly)
Lectures: 3
Practical classes: 2
Other types of classes: 1
Grading (maximum number of points: 100)
Pre-exam obligations: Points
Activities during lectures:
Activities on practical exercises: 20
Seminary work: 50
Colloquium:
Final exam: Points
Written exam: 30
Oral exam:
Lecturer
Nenad Kojić, PhD
Associate
Marko Spasojević, Milena Vesić

