Óbuda University– Alba Regia Technical Faculty			Institute of Engineering
Subject name and code: AMKAA0KBNE – Advanced ABAP			**Credit: 3**
Full time course *2017/18 Academic Year*			*Semester:2*
Training Programs running this course: Engineering BSc			
Subject leader: Dr. Orosz Tamás		Teachers: Dr. Orosz Tamás	
Prerequisites:			
Weekly lessons:	Lectures: 1	Practices: 0	Laboratories: 2	Consulting: 0
Measuring points:	midterm mark based on lecture tests and midterm tests		

Course program

Learning objectives: students will acquire object oriented concept of ABAP and apply it to SAP Enjoy Controls (ALV, Picture, HTML-viewer, etc.). Dynamic programs, RFC functions, BAPIs, Web services and WebDynpro and will be developed. Standard objects will be extended standard by Exit-, Badi- and Enhancement tools.

- Architecture and environment. Syntax, keywords, structures, and tables. ABAP tools.
- Procedural and object-oriented programming. ABAP.performance tuning.
- SAP Controls Framework. User interaction. Dialog and dynamic programming
- Modularization. Debugging and testing.
- Screens: Dynpro, UI5, BSP, Personalization. Interface development
- File Processing. Persistent data. Modifications and enhancements.

Topics (Lectures and Laboratories)	**Hours**
1. ABAP OpenSQL revisited. Performance tuning.	3
2. ABAP Worbench and … .	
3. Reporting with ALV Lists. Enjoy Controls: ALV functions, data storage and handling.	3
4. Enjoy Controls: control framework, Picture, Containers, HTML-Viewer.	3
5. -	
6. Dynamic programming (way of program creating, data and type definitions).OOP basics and SAP OO syntax: objects, class relations, local classes, instantiating, visibility, methods, method calls, Pretty Printer.	3
7. -	
8. Using OOP in ABAP: Constructors, static classes, global classes and types, Interfaces. Inheritance, Type conversion, casting, exclusion classes, events. Class builder. Class-based exceptions.	3
9. WebDynpro basics (SAP and Web development, ITS, BSP, MVC, WD architecture). WebDynpro program (definitions, elements, context, controls, texts, screen components).	3
10. Use of WebDynpro (programs, relationships, assistant classes, input helps).	3
11. Persistency, shared memory objects, RTTS. LUW.	3
12. BSP. UI5, CSS.	
13. SAP extensions w/o modification of standard components: modification levels, DDIC component extensions, Customer Exit.	3
14. SAP extensions w/o modification of standard components: BTE, BAdI, Enhancement Framework: Enhancement points, sections, implicit enhancements).	3

Measuring points

Supplement midterm exams:	According to the Training and Exam Regulations
Requirements of Teacher's Signature	Laboratory Attendance is compulsory. Supplements of attendance according to the Training and Exam Regulations. Average result of weekly tests at least 50%. Submission of Practical assignments according to the deadlines.

Grading (Midterm mark): 0-50% Fail, 51% Pass, 61% Satisfactory, 71% Good, 81% Excellent
34% gives the average result of weekly tests, 66% gives the average results of midterm exams

Maximum number of missed lectures and laboratories: 3 times

Compulsory literature:	SAP UAC presentations and case studies
Recommended literature:	ABAP Object Oriented Programming, SAP Press