1. Subject name	Vehicle system informatics				
2. Subject name in Hungarian	Járműinformatika				
3. Code	BMEKOVJM437	4. Evaluation type	mid-term grade	5. Credits	5
6. Weekly contact hours	2 (10) Lecture	0 (0) Practice		2 (11) Lab	
7. Curriculum	Vehicle Engineering MSc (J)	8. Role	Specialization (sp) at Vehicle Engineering MSc (J)		

9. Working hours for fulfilling the requirements of the subject				150	
Contact hours	56	Preparation for seminars	18	Homework	30
Reading written materials	46	Midterm preparation	0	Exam preparation	0

10. Department	Department of Aeronautics and Naval Architectures
11. Responsible lecturer	Dr. Kolonits Ferenc
12. Lecturers	Dr. Kolonits Ferenc
13. Prerequisites	

14. Description of lectures

Vehicle Computing System as info. storage, transmission, grouping, sorting, processing: data representation, data input, storage, retrieval, transmission, distribution. Determining document structure. Document description of the main tools: SGML, HTML, XML and DTD. XSL. DTD: name structure, syntax, terminal descriptors. Standard and generic items. Attribute syntax. Namespace applications. Application type descriptor (entity). Vehicle-document hierarchical structure and structural levels battery unit, structure, group, division, sub vehicle. Enlargement of the structure. The event codes ordering parts. XML editors: XML mind morph, Xerlin, Web download software use. Clarity. Document Processing: XSL various tools: Finding the XML document elements, navigating structural axes. Implementation mechanism of the template. Targeted info. Extraction. Processing Software: COOKTOP (free downloadable software) review of the principal lines. Using XSL-generator program. The Xtract software. Vehicle Document Management: performing elementary operations XSLT routines scenarios and bills of withdrawal of the document specified. Description of vehicle structural links: contact and containment relations. The functional areas and roads setting - the possibilities and the processing pathes. Graph theoretical analysis of the failure groups. Production data structures for vehicle system reliability analysis. The statistical processing programs to connect preparation.

15. Description of practices

16. Description of labortory practices

In the framework of the computer laboratory practice solution of the concrete vehicle-informatic tasks of the data-sorting, the vehicle-reliability and the maintenance.

17. Learning outcomes

A. Knowledge
- Understands and applies the mathematical and scientific principles and procedures of the vehicle informatics.
- Understands and can apply in a wide circle the theories and terminologies elaborated for professional area of informatics.
- Knows and understands the basic facts, limits and development possibilities of the vehicles informatics.
- Knows and understands the information and communication technology which are connected with the vehicles informatics.

B. Skills
- Able to apply in innovative way the required mathematical and informatics principles and procedures for solving the problems connected with the vehicle informatics.
- Able to apply, to analyze and to evaluate the methods applied in the field of the vehicle informatics.
- Shows ability to apply integrated knowledges in the field of the vehicle informatics.

C. Attitudes
- Open and receptive to know and to pass on the developments and innovations which are taken place on the field of

the vehicle informatics. The sense of vocation is depth.
- Accepts the professional and ethical values-system connected with the professional area of the vehicle informatics.
- Pursuing to use complex and on system-oriented mentality based approach to the processes.

D. Autonomy and Responsibility
- Pro-activity in professional work, the self-standing selection and application of the solution methods.
- Making decision circumspectly and responsibility.
- Takes into account in the decisions the regulations of the law and the engineering ethics.

18. Requirements, way to determine a grade (obtain a signature)

The criterion of signature is both the active participation at the class (attitude), and the complet solving of the semester's tasks (knowledge, ability, autonomy). In the fields of attitudes and autonomy the results achieved in the semesters are included in the final classification by weight 50%. At the end of semester there is an examination (knowledge, ability, attitude).

19. Opportunity for repeat/retake and delayed completion

Possibility to refit the homeworks, to repeat the examination, properly to the Study and Exam Regulations.

20. Learning materials

Department's publications.

| **Effective date** | 10 October 2019 | **This Subject Datasheet is valid for** | Inactive courses |