FUNDAMENTALS OF ADDITIVE MANUFACTURING

1	Course Title:	FUNDAMENTALS OF ADDITIVE MANUFACTURING
2	Course Code:	EIM6001
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. BETÜL SULTAN YILDIZ
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Doç. Dr. Betül S. Yıldız betulyildiz@uludag.edu.tr
17	Website:	
18	Objective of the Course:	To gain basic knowledge about additive manufacturing technology terminology, production methods and materials used in additive manufacturing.
19	Contribution of the Course to Professional Development:	Learning the additive manufacturing process and production methods.
20	Learning Outcomes:	
	1	To learn the basic principles of additive manufacturing.
	2	To have knowledge about additive manufacturing methods.
	3	To have knowledge about the materials used in additive manufacturing.
	4	To have knowledge about additive manufacturing process and parameters.
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21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Additive manufacturing introduction and terminology	
2	Materials used in additive manufacturing	
3	Reverse engineering, Rapid Prototyping, Modeling	
4	Additive manufacturing methods	

5	Fused Deposition Modelling- (FDM)	
6	Binder 3D printing	
7	Laminated Object Manufacturing (LOM)	
8	Stereolithography (SLA)	
9	Polyjet Modelling (PJM)	
10	Selective Laser Sintering (SLS)	
11	Selective Laser Melting (SLM)	
12	Electron Beam Melting (EBM)	
13	Laser Metal Deposition for Additive Manufacturing using Powder or wire	
14	Additive manufacturing process parameters	

22	Textbooks, References and/or Other Materials:	1- Additive Manufacturing Technologies- 3D Printing, Rapid Prototyping, and Direct Digital Manufacturing, Ian Gibson, David Rosen, Brent Stucker, 2015. 2- Lecture notes.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Theoretical	1	40.00
Practicals/Labs	2	100.00
Total		100.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Home work-project	14	3.00	42.00
Self study and preperation	14	3.00	42.00
Homeworks	1	36.00	36.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	14	3.00	42.00
Final Exams	1	20.00	20.00
Total Work Load			182.00
Total work load/ 30 hr			6.07
ECTS Credit of the Course			6.00

24 ECTS / WORK LOAD TABLE

Success Grade
Contribution of Final Exam to Success Grade
Course

25	**CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	4	4	3	4	3	4	4	5	3	4	0	0	0	0	0	0
ÖK2	3	4	4	4	4	4	4	4	5	5	0	0	0	0	0	0
ÖK3	4	4	4	3	3	4	4	3	3	4	0	0	0	0	0	0
ÖK4	4	4	4	3	3	4	3	5	5	5	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High