



Course	Additive Manufacturing – 3D printing, 3 ECTS credits
Year and period	M.Sc. 1 - 2, 24 – 28.7.2017
Teacher(s)	Research Scientist Heidi Piili, LUT Post-doctoral researcher Ville Matilainen, LUT N.N., LUT
Person(s) in Charge	Research Scientist Heidi Piili, LUT
Additional Information	The course topics are related to sustainable development.
Aims	After having passed this course a student - knows basic technologies of additive manufacturing (AM) aka 3D printing - is familiar with terminology used in additive manufacturing - is able to compare and select most common features of additive manufacturing processes - knows the basics about product design for additive manufacturing (AM) aka 3D printing - is familiar with economical aspects of additive manufacturing
Content	During the course the student will become familiar with: - terminology used in additive manufacturing - most common methods, processes and equipment - principles of utilization of additive manufacturing in product design - economical aspects of additive manufacturing - practical cases and applications - future possibilities of additive manufacturing
Modes of Study	- Introductory lectures and exercises 17 hours - Team work and a limited project work 22 hours - Presentations of the results of the team work/ project work 6 hours - Independent work is needed 30 hours - Exam 3 hours Total workload 78 hours. Moodle is used in this course.
Evaluation	Final grade 0-5: Seminar work 80% Exam 20%

Study Materials	<ul style="list-style-type: none">- Gibson, I., Rosen, D. W., Stucker, B.: Additive Manufacturing Technologies- Lecture material
Prerequisites	<ul style="list-style-type: none">- Good understanding of manufacturing and engineering- Basic knowledge of product design- Ability to use design programs as SolidWorks, Autocad etc. is recommended.