Mathematical Modelling and Nonlinear Dynamics course (YFX1520)
ECTS credits: 6.0

Learning outcome	Assessment method	Assessment criterion
Know the behaviour of nonlinear systems and methods of analysis. Can analyse chaotic regimes. Student can explain the fundamentals and notions of nonlinear dynamics: models, bifurcations, emergence of chaos, methods of analysis, fractality.	**1. Lecture attendance**	Student must attend at least 56.3962445% of lectures/exercise lessons.
	2. Coursework	Analysis of a nonlinear dynamical system (two part coursework) is performed using analysis methods presented during the lectures. Student understands the dynamics of given problem/problems.
	3. Exam	Student knows the fundamentals, notions and concepts of nonlinear dynamics. Student is able to practically apply the learned knowledge.

Criterion for passing the course: Nonlinear dynamics is a course that ends with an exam. All general rules and rights dictated and provided by TalTech to the students apply. Successfully completed coursework is prerequisite for taking the final exam.

The final grade is formed as follows:
5 (excellent) — student demonstrates excellent knowledge: He/she solves without mistakes typical problems of the course; He/she knows perfectly the concepts and relations of the subject and required reasoning and proofs (91%—100% from the capacity of the course);
4 (very good) — student demonstrates very good knowledge: He/she solves typical problems of the course making small number of mistakes; He/she knows perfectly the concepts and relations of the subject and required reasoning and proofs (81%—90% from the capacity of the course);
3 (good) — student demonstrates good knowledge: He/she solves typical problems of the course with small number of mistakes; He/she knows the concepts and relations of the subject and required reasoning and proofs but makes certain number of mistakes (71%—80% from the capacity of the course);
2 (satisfactory) — student demonstrates satisfactory knowledge: He/she solves typical problems of the course making mistakes; He/she knows the concepts and relations of the subject but makes in required reasoning and proofs many mistakes (61%—70% from the capacity of the course);
1 (poor) — student demonstrates scarce knowledge: He/she solves typical problems of the course with many mistakes; He/she knows superficially the concepts and relations of the subject and makes in required reasoning and proofs great number of mistakes (51%—60% from the capacity of the course).