PROGRAMA DA DISCIPLINA/TURMA 3ZA PERÍODO: 2026.2

MAT2725	**TÓPICOS DE TOPOLOGIA** CARGA HORÁRIA TOTAL: 45 HORAS Nº CRÉDITOS: 3 PROFESSOR: Sergei Burkin
TÍTULO DA DISCIPLINA:	Topics in homotopy theory

OBJETIVOS DA DISCIPLINA/TURMA	The course is aimed at students specializing in complex and symplectic geometry and/or physics and wishing to learn relevant homotopy theory. The themes can be chosen by the students.
EMENTA DA DISCIPLINA	Cobordism, K-theory and other generalized cohomology theories and their applications in geometry. Bott periodicity. Chern classes in complex-oriented theories and formal group laws. Chern character, Todd genus and A-genus. Thom isomorphism in K-theory. Umkehr maps. Six functor formalism. Cobordism categories and GMTW theorem. Cobordism hypothesis and TQFTs. Students are very welcome to suggest their own topics. Some other possible topics include: rational homotopy theory (dg Lie algebras and dg commutative algebras, rational homotopy groups, minimal models, formality of compact Kahler manifolds), equivariant homotopy theory, h-principle, surgery, Floer theory, Hochschild and cyclic (co)homology and THH and TC, factorization homology and factorization algebras.
PRÉ-REQUISITOS DA DISCIPLINA	Topologia algébrica, geometria diferencial e estruturas algébricas
PROGRAMA DA DISCIPLINA/TURMA	Some other possible topics include: rational homotopy theory (dg Lie algebras and dg commutative algebras, rational homotopy groups, minimal models, formality of compact Kahler manifolds), equivariant homotopy theory, h-principle, surgery, Floer theory, Hochschild and cyclic (co)homology and THH and TC, factorization homology and factorization algebras.
AVALIAÇÃO DA DISCIPLINA	Critério 12 Média = G1
DETALHAMENTO AVALIAÇÃO DA DISCIPLINA	
BIBLIOGRAFIA BÁSICA DA DISCIPLINA	

BIBLIOGRAFIA COMPLEMENTAR
DA DISCIPLINA

BIBLIOGRAFIA DE
PESQUISA DA DISCIPLINA