Planned lectures of Stipsicz Andras

(1) **Contact structures, open books and contact surgery**
   - Definition of contact structures, open books
   - Tight and overtwisted structures
   - Giroux's correspondence
   - Contact neighborhood theorems, Honda's classification
   - Contact surgery, the theorem of Ding-Geiges
   - Lens spaces, small Seifert fibered spaces

(2) **Heegaard Floer invariants**
   - Definition of Heegaard Floer groups for spin^c 3–manifolds
   - basic properties, the surgery exact triangle
   - Contact Ozsvath-Szabo invariants, definition and basic properties
   - L-spaces, examples among small Seifert fibered spaces

(3) **Applications**
   - tight contact structures on surgeries along torus knots
   - Classification of tight structures on small Seifert fibered 3-manifolds with $e_0 \neq -1, -2$
   - L-spaces
   - $e_0 = -1$
   - contact structures and planar open books