Study programmes: PhD Studies - Astronomy and Astrophysics

Course name: Close binary systems

Lecturers: Gojko Djurašević

Status: Optional

ECTS: 9

Attendance prerequisites: None

Course aims: Acquiring advanced knowledge about close binary systems.

Course outcome: At the end of the course, student has enough skills to start a research on close binary systems.

Course content:

Close binary systems: historical overview. Two body problem – orbital motion. Orbits determination. Perturbations, Roche model, mass transfer/mass loss. Spectroscopic binaries. Photometry and polarimetry: stellar sizes and shapes. Masses and absolute dimensions of stars in binary systems. Surface and accretion structures mapping. Evolution of close binary systems.

Literature:

1. Hilditch R. W. 2001, *An Introduction to Close Binary Stars*, Cambridge: Cambridge Univ. Press;
2. Hansen C. J., Kawaler S. D., Trimble V., 2004, S*tellar Interiors - Physical Principles, Structure, and Evolution*, New York: Springer;
3. Eggleton P., 2006, *Evolutionary Processes in Binary and Multiple Stars*, Cambridge: Cambridge University Press

Excercises: Hansen C. J., Kawaler S. D., Trimble V., 2004, *Stellar Interiors - Physical Principles, Structure, and Evolution*, New York: Springer

Number of hours: 5	**Lecures: 3**	**Tutorials: 2**

Teaching methods:

Ex cathedra, group work, student research

Grading system (maximum number of points: 100)

Pre-exam requirements	points	**Final exam**	points
Lectures	10	Written exam	
Excersises / Tutorials	30	Oral exam	60
Colloquia			
Essay / Project			