Program	Level	First cycle
	Name of the program	Pure Mathematics, Applied Mathematics, Mathematics Education

COURSE

Course title	**Topology**			
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)
PMAT270	IV	Mandatory course	5	2+2+0
Lecturer				
Course Goals	- Introduction of a series of concepts and derivation of properties: topological space, topology; open sets, closed sets; closure, interior, frontier, point of accumulation of a set; continuous map, induces topology; compact set, connected set; metric and metric spaces; - Acquiring quality knowledge of topology as a fundamental knowledge of mathematics.			
Learning Outcomes	- Acquiring basic and general knowledge of topology with the aim of its later use, - Forming a topological point of view; - Topological systematization of previously acquired knowledge of mathematics.			

COURSE CONTENT

- Topological spaces, open and closed sets.
- Basis and subbasis for a topological space. Closure and interior of a set.
- Methods of defining topologies. Examples.
- Frontier of a set. Dense sets.
- Continuous maps.
- Axioms of separation.
- Convergence in a topological space. Nets and filters.
- Operations on topological spaces. Subspaces of topological spaces.
- Sum of topological spaces.
- Product of topological spaces.
- Identification spaces and identification maps.
- Compact spaces. Properties.
- Connected spaces. Properties.
- Notions and examples of a metric, metrizable, pseudometric and pseudometrizable space, sphere, open and closed balls. Equivalent metrics.

LITERATURE

[1] M. Pepić, Topologija (manuscript).
[2] K. Kuratowski, Topology, Vol I, Academic Press, 1966.
[3] K. Kuratowski, Topology, Vol II, Academic Press, 1968.
[4] M. Mršević, Zbirka rešenih zadataka iz topologije, Beograd, Naučna knjiga, 1977

STUDENT WORKLOAD (hours in a semester)

Lectures	30	Exercises	30	Individual work	65	T o t a l	125

GRADING			**REMARKS**
Criterion	Maximum points	Minimum points	
Midterm exams	50	25	
Final exam	50	25	
T o t a l	100	55	