Study programme	Level of study (cycle)	Third cycle – doctoral studies
	Study programme title	Doctoral programme in mathematical and computer sciences

COURSE

Course title	**Analysis on manifolds**

Course code	Semester	Course status	ECTS credits	Contact hours
PMAT 675	II	Elective	10	30

Course aims and learning outcomes	Minimum outcome: acquiring the knowledge needed to develop differential calculus on manifolds. Desirable outcome: being able to work independently with differential calculus on manifolds.

Course content

- Manifolds
- Vector bundles
- Differential calculus on manifolds
- Sheaf theory
- Sheaf resolutions
- Differential geometry
- Riemannian geometry
- Generalised functions on manifolds

REFERENCES

[1] F. W. Warner, Foundations of Differentiable Manifolds and Lie Groups, Springer-Verlag, New York-Berlin, 1983. 272 pp.

[2] Aubin, T., A course in differential geometry. Graduate Studies in Mathematics, 27. American Mathematical Society, Providence, RI, 2001. 184 pp.

[3] Grosser, M., Kunzinger, M., Oberguggenberger, M., Steinbauer, R., Geometric theory of generalized functions with applications to general relativity. Mathematics and its Applications, 537. Kluwer Academic Publishers, Dordrecht, 2001. 505 pp.

[4] V. Dragović, D. Milinković, Analiza na mnogostrukostima [Analysis on Manifolds], Faculty of Mathematics, Belgrade, 2003 (in Serbian).

ASSESSMENT AND GRADING

	Criterion	Points	Pass mark
1.	Assignments		
2.	Project		
3	Final examination		
	Total	100	55