

<b>Study programmes:</b> PhD – Mathematics				
<b>Course name:</b> Theory of submanifolds				
<b>Lecturers:</b> Mirjana Đ. Đorić, Zoran P. Rakić i Srđan N. Vukmirović				
<b>Status:</b> Optional				
<b>ECTS:</b> 9				
<b>Attendance prerequisites:</b> Riemannian geometry A, Riemannian geometry B				
<b>Course aims:</b> Acquisition of general and specific knowledge in theory of submanifolds. Preparing student for individual scientific work: studying of literature from this theory and gradually including student for individual research work.				
<b>Course outcome:</b> Upon completion of the course, the student has necessary knowledge about: induced connection, basic equations (Gauss, Codazzi, and Ricci), hypersurfaces, totally umbilical and totally geodesic submanifolds, scalar curvature of submanifold, minimal submanifolds, submanifolds of Kaehler manifolds, totally real and Lagrange submanifolds of Kaehler manifolds, CR-submanifolds. Student is qualified to individual understanding basic examples and solving problems from this area. Also, student is qualified for individual studying of scientific papers from this area.				
<b>Course content:</b> Induced connection and second fundamental form. Equations of Gauss, Codazzi, and Ricci. Hypersurfaces. Totally umbilical submanifolds. Totally geodesic submanifolds. Scalar curvature of submanifolds. Submanifolds of Euclidean space or sphere. Minimal submanifolds. Submanifolds of Kaehler manifolds. Totally real and Lagrange submanifolds of Kaehler manifolds. CR-submanifolds of Kaehler manifolds.				
<b>Literature:</b>				
<ol style="list-style-type: none"> <li>1. B. Y. Chen, Geometry of Submanifolds, 1973, Marcel Dekker, New York.</li> <li>2. B. Y. Chen, Geometry of Submanifolds and Its Applications, 1981, Science University of Tokyo, Tokyo, Japan.</li> <li>3. B. Y. Chen, Riemannian submanifolds, Handbook of Differential Geometry, vol. I, 2000, ed. F. Dillen, L. Verstraelen, Elsevier Publ. Co. (Amsterdam), 187-418.</li> <li>4. S. Kobayashi and K. Nomizu, Foundations of Differential Geometry II, 1969, Interscience, New York.</li> </ol>				
<b>Number of hours:</b> 10	<b>Lectures:</b> 4	<b>Tutorials:</b> -	<b>Laboratory:</b> -	<b>Research:</b> 6
<b>Teaching and learning methods:</b> Lectures/ Tutorials				
<b>Assessment (maximal 100 points)</b>				
<b>Course assignments</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>	
Lectures	-	Written exam	-	
Exercises / Tutorials	20	Oral exam	60	
Colloquia	-	Written-oral exam	-	
Essay / Project	20			