

Name subjects :		APPLIED MECHANICS		
Code subjects	Case status	Semester	Number of ECTS credits	Number of lessons (weekly)
1PM	Required	II	6	2P+2V

Study programs organized for : Polytechnics , general studies

Conditionality other Subjects : None.

Idea studies subjects : Idea studies subjects is that students acquire thoroughly understanding law mechanical movements and balance material bodies , as and ability applications these law in analysis stability construction . The subject focuses on study mechanical behavior carrier under the influence different loads , which I can be static or dynamic character . Through analytical access , students will to develop ability to follow and analyze change position bodies and his/hers parts in space during time , with goal identifications and solutions problems related to balance construction . Thus , the subject enables practical application theoretical basis mechanics in engineering .

Goals studies Subject : To enable to the student after overcome materials adopt theory statics / dynamics and her application on specific construction problems ; to adopt basic concepts statics , basic laws and theorems important for education construction engineer ; to master basic laws and theorems dynamics related to mechanical movements material points , or system material points and body ; to develop abstract intelligence understandings mechanics and mechanical relationship and acquisition knowledge from mechanics as one of the basic areas in education engineers .

Outcomes learning : A student who successfully overcome this one subject , will be able to :

1. Understands basic laws statics and dynamics , and their application on specific construction and engineering problems ;
2. Analyzing and applies static and dynamic models in analysis balance and stability construction , including static certain and complex Ramovsky systems , as and structures under dynamic loads ;
3. And it ends analysis and interpretation diagram cross-sectional force , and understands and apply theory oscillation on systems with one by degree freedom ;
4. Development ability to identify and solving engineering problems related to mechanical movements material points and system .

Name and last name teacher and associates : prof. Dr. Atanas Kočov, M.Sc Šemso Kalač, Bojana Sterniša Stanišić, MSc

Teaching method and overcoming materials : lectures , exercises , tests .

WORK PLAN

Sunday : Name methodological unit for lectures (P), exercises (V) and others teaching contents (O); Planned shape checks knowledge (Pz)

Preparatory Sunday		Introduction , preparation and enrollment semester .
And Sunday	P/V	Static certain linear carriers : definitions , divisions , reactions connection simple and complex carrier .
II	P/V	Carriers with wrist : conditions equilibrium , reactions connections .
III	P/V	Carriers with wrist : reactions connections and diagrams cross-sectional force .
IV	P/V	Static certain Ramovsky systems ; reactions connection ; bow on three joints .
V	P/V	Static certain Ramovsky systems ; arch on three joints ; diagrams cross-sectional force .
VI	PZ	Colloquium
VII	P/V	Onion with tension , diagrams cross-sectional force .
VIII	P/V	Complex static certain Ramovsky systems - diagrams cross-sectional force .
IX	P/V	Introduction to dynamics : Dynamic load model ; dynamic models realistic system (material point , solid body , elastic systems) .
X	P/V	Dynamic model of construction construction .
XI	P/V	Introduction to theory oscillation free un- damped oscillations system with one by degree freedom .
XII	P/V	Free muffled oscillations system with one by degree freedom .
XIII	P/V	Forced oscillations system with one by degree freedom .
XIV	P/V	Quasi-static models seismic loads .
XV	P/V	Recapitulation materials .
XVI	PZ	Final exam .
XVII		Verification semester and enrollment rating
XVIII		Correctional exam deadline

Obligations student in progress classes : lectures , exercises , tests .

Consultations by e- mail : YES

Load student

Sunday : 6 credits x 40/30 = 8 hours	In the semester : Total workload for the subject 6x30 = 180h Structure : Teaching and final exam : 8 hours x 16 weeks = 128 hours Necessary preparations before beginning semester (administration , enrollment , certification) : 8hx2=16h Additional preparation work and laying remedial exam time : 0-36h
Structure : 2 hours lectures 2 hours exercises 4 hours independent work, including and consultations .	

Literature :

R. Hibbeler, Engineering Mechanics Statics, 12th edition (chapter 7);

Dynamics of Structures, Anil K. Chopra, Prentice-Hall, 2011.

Natalija Naerlović – Veljković : Mechanics I, Science, Belgrade 1996. D. Grbić, S. Brčić, D. Šumarac et al. Mechanics I, Collection resolved exam tasks , Scientific book Belgrade 1998.

Shapes checks knowledge and evaluation :

Tests 20% , midterm exam 40% and exam 40%.

Rating	A	B	C	D	E
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<i>Number point</i>	<i>90-100</i>	<i>80-89</i>	<i>70-79</i>	<i>60-69</i>	<i>50-59</i>
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