## **Orthodontic Biomechaniccs European Course 2024**

## **Biomede Biomechanics General Program**

This is the scientific program for the **Five Weeks of the Biomede Orthodontic Biomechanics European Course (OBEC).** The full program has a total duration of 175 hours of didactive activities, and is an adaptation of the Biomede Biomechanics General Program. In every OBEC minor changes are possible, while the core of the course will always be the same. Other Biomede shorter courses, are offering part of this program.

The OBEC is structured in two blocks of lectures and practical activities. The first three weeks and the last two weeks of the course are generally taking place in different periods, with a minimum distance of two months.

## Week 1

Monday		Tuesday		Wednesday		Thursday		Friday	
Introduction to the Course	1	Dental Movements, C. of Rotation Equivalent Force Systems with Exercises	4	Force Systems: Active/Pas- sive Units - Frictional/Non Frictional – Statical Determi- nation – Consistency	3	Occlusogram Introduction - Digital Models and The DDP Software	3	Use of Virtual Articulator for mandibular repositioning	2
Basics of Biomechanics, Forces and Moments, Center of Resistance	3	Relation between the force system and the dental move- ment Exercises	3	Equilibrium - Anchorage Ne- eds Estimation EXER- CISE	3	First Occlusogram (2d) Executed both by instructors and students	2	3d Occlusogram and Virtual Set Up Exercise	2
Vector Calculations with Exercises	3			Occlusal Anchorage Manage- ment.	2	More occlusograms exercises (2d)		Dma Software and Exercises Introduction to 3d Biomechanics Analysis	3

Monday		Tuesday		Wednesday		Thursday		Friday	
Statically Determinate Me- chanics and Cantilevers	5	Exercise in designing Stati- cally Determinate Mechanics	2	Instruction: How to prepare a Case for Presentation	2	Statically indeterminate sy- stems: The Six Geometries	3	V Bends and Alpha beta Springs	4
Typodont Passive segments and lingual arches	2	Two Vector Mechanics	2	Typodont: Cantilevers with configuration.Composite Can- tilevers and Welding Exercises	5	The Dynamic of Geometries. Alignment with linear seg- ments	2	Typodont: Six Geometries, V Bend, Alpha Beta Springs	3
		Typodont: Basic Cantilevers	3			Typodont, Understand ge- ometries during alignment with segments	2		
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Week 3									
Monday		Tuesday		Wednesday		Thursday		Friday	
Alignment Loops	3	TPA and Lingual Arches 2	4	Vertical Problems	3	Skeletal Anchorage	4	Metallurgy	3
Typodont Rectangular Loops	2	Vertical Problems	3	Typodont: TPA and L. Arches	4	Typodont: Deep bite cor- rection	3	Insertion of Tads, Connector set up - Hands on.	2
TPA and Lingual Arches 1	2							Extra alveolar Anchorage	-
Week 4									
Monday		Tuesday		Wednesday		Thursday		Friday	
Space Closure with Loops	5	Space Closure with Statically determinate systems	4	Biomechanics and Aligner Therapy	4	Asymmetric Cases, Diagnosis and Planning	4	Mandibular Repositioning Cases	4
Typodont: T Loops	2	Typodont: Space Closure with Statically Det. Mechanics	3	Biology of dental movement	3	Mandibular Repositioning General Concepts	3	Combining Straight wire and Segmented Arch	3
			3	Typodont: Torque and Upri- ghting					T
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Week 5									
Monday		Tuesday		Wednesday		Thursday		Friday	
Torque and Uprighting	5	FINAL TEST	2	Interdisciplinary Orthodontics Preprosthetics Orthodontics Treatment of Perio cases	4	Transversal Problems	4	Asymmetric Mechanics	4
Students Case Discussion	2	Typodont Torque and Uprighting	4	Students Case Discussion	3	Students Case Discussion	3	Students Case Discussion	
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