Mechanical Vibrations 2024-2025

This list covers all slides taught in the past semester and which will be covered during the oral examination.

Unless mentioned otherwise all sessions have an associated video found on <https://structuraldynamics.ulb.be/videos-and-slides/> .

Links to Wooclap sessions are on; <https://structuraldynamics.ulb.be/mechanical-vibrations-2024-2025/>

* **Introduction.**[pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_introduction.pdf%22%20%5Ct%20%22_blank)
* **SDOF systems** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_1DOF.pdf)
* **Vibration sources** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_Sources.pdf)
* **MDOF systems** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_mdof.pdf)
* **Continuous systems** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_continuous.pdf)
* **Finite element models** [pd](https://structuraldynamics.ulb.be/Vibrations/Vibrations_fe.pdf)f
* **Reduction to SDOF systems** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_equivalent_sdof.pdf)
* **Dynamic response computation** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_dynamic_response.pdf)
* **Flow induced vibrations** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_flow_induced_vibrations.pdf)
* **Real world loads** [pdf](https://structuraldynamics.ulb.be/wp-content/uploads/2024/10/2425_MV_006_Real_world_loads.pdf)(No video)
* **Signal Processing** [pdf](https://structuraldynamics.ulb.be/wp-content/uploads/2024/10/2425_MV_007_SignalProcessing.pdf)**; Video on Panopto :** [Link](https://vub.cloud.panopto.eu/Panopto/Pages/Viewer.aspx?id=b78c27bf-8b12-4976-9644-b20d00fa68a6)
* **Vibration damping** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_damping.pdf)
* **Tuned vibration absorbers** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_tuned_absorbers.pdf)
* **Vibration isolation** [pdf](https://structuraldynamics.ulb.be/Vibrations/Vibrations_isolation.pdf)
* **Structural testing** [pdf](https://structuraldynamics.ulb.be/wp-content/uploads/2024/11/2425_MV_009_StructuralTesting.pdf) ; Video on Panopto : [Link](https://vub.cloud.panopto.eu/Panopto/Pages/Viewer.aspx?id=644e33e2-0019-42d8-ab68-b22201044196)
* **Experimental Modal Analysis : Non – Parametric** [pdf](https://structuraldynamics.ulb.be/wp-content/uploads/2024/12/2425_MV_011_EMA_NonParametric.pdf) **(No Video)**
* **Experimental Modal Analysis: Parametric** [pdf](https://structuraldynamics.ulb.be/wp-content/uploads/2024/12/2425_MV_012_EMA_MPE.pdf) **(No Video)**