

## Supplementary Course (EVA) at ZHAW School of Engineering

Title: Aircraft Structural Integrity

Short Code: rEVA\_AcStruct

ECTS Credits	3
Profile	Aviation (Avi)
Responsible Institute /Centre	Centre for Aviation (ZAV)
Responsible lecturer and contact information	Michel Guillaume ( <a href="mailto:guil@zhaw.ch">guil@zhaw.ch</a> ) and Markus Gottier
Type and duration of examinations	Oral presentation of a case study
Start date and duration	In consultation with the lecturer: Spring Detail: 8 times in presence on site
Location	Winterthur
Course type	In physical presence and self study  <ul style="list-style-type: none"> <li>• Contact hours: 25 (hrs)</li> <li>• Guided self-study: 15 (hrs)</li> <li>• Independent self-study: 50 (hrs)</li> </ul>
Language of instruction	German
Short description (max. 300 characters)	The goal of this supplementary course is to provide practical in -depth information of static and fatigue verification procedures including practical case studies.
Contents and Learning Objectives	The following questions will be discussed in the course to get more in-depth understanding of fatigue in aircraft metal structures: <ul style="list-style-type: none"> <li>- What is the meaning of fatigue in metallic structures</li> <li>- Which parts of metallic structures are fatigue critical</li> <li>- Which parameters are drivers for fatigue</li> <li>- Which procedures are available to determine fatigue live</li> <li>- Which measurements are necessary to avoid fatigue problems in metallic structures</li> </ul> <p>Real case studies will be discussed (integration of antenna in pressurized fuselage of aircraft).</p>
Prerequisites	Aircraft Structures and Testing, Mechanical Engineering

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Literature	Fatigue of Structures and Materials, Jaap Schijve, ISBN: 978-1-4020-6808-9, 22 Dec. 2008 Stress Concentration Factors, Peterson Second Edition, ISBN: 0-471-53849-3, 1997			
Special requirements	none			
Offer for profiles	Aviation (Avi)	<input checked="" type="checkbox"/>	Business Engineering (BE)	<input type="checkbox"/>
	Computer Science (CS)	<input type="checkbox"/>	Data Science (DS)	<input type="checkbox"/>
	Electrical Engineering (EIE)	<input type="checkbox"/>	Energy & Environment (EnEn)	<input type="checkbox"/>
	Mechanical Engineering (ME)	<input checked="" type="checkbox"/>	Mechatronics & Automation (MA)	<input type="checkbox"/>
	Medical Engineering (Med)	<input type="checkbox"/>	Photonics and Laser Engineering (Pho)	<input type="checkbox"/>
	Information and Cyber Security (ICS)	<input type="checkbox"/>	Civil Engineering (CE)	<input type="checkbox"/>