HAW Kiel
Hochschule für Angewandte Wissenschaften Kiel
Kiel University of Applied Sciences

MI123 - Advanced Java

MI123 - Advanced Java

General information	
Module Code	MI123
Unique Identifier	
Module Leader(s)	Prof. Dr. Manzke, Robert (robert.manzke@haw-kiel.de) Rathje, Jan-Philipp (jan-philipp.rathje@haw-kiel.de)
Lecturer(s)	Dr. Phil. Pein, Raoul Pascal (raoul.p.pein@haw-kiel.de) Rathje, Jan-Philipp (jan-philipp.rathje@haw-kiel.de)
Offered in Semester	Sommersemester 2021
Module duration	1 Semester
Occurrence frequency	Irregular
Language	Englisch
Recommended for international students	Yes
Can be attended with different study programme	Yes

Curricular relevance (according to examination regulations)
Study Subject: M.Sc. - MIE - Information Engineering (PO 2022, V3) Study Specialization: IT Security Module type: Wahlmodul Semester: 1, 2, 3
Study Subject: M.Sc. - MIE - Information Engineering (PO 2022, V3) Study Specialization: Business IT-Management Module type: Wahlmodul Semester: 1, 2, 3
Study Subject: M.Sc. - MIE - Information Engineering (PO 2022, V3) Study Specialization: Information Technology and Systems Module type: Wahlmodul Semester: 1, 2, 3
Study Subject: M.Sc. - MIE - Information Engineering (PO 2022, V3) Study Specialization: Intelligent Systems Module type: Wahlmodul Semester: 1, 2, 3

Qualification outcome
Areas of Competence: Knowledge and Understanding; Use, application and generation of knowledge; Communication and cooperation; Scientific self-understanding / professionalism.
Students who successfully complete this course will be able to write maintainable java code. The course will cover syntactical and semantical concepts of Java 14. Furthermore students will gain basic knowledge in software architecture for the developing java applications. Students will get to know a typical toolchain of an agile development process starting with an idea and finishing with a running software program.

Content information	
Content	- Build Tools and IDEs the developers toolchain - Unit testing and TDD - Functional programming in Java - especially when using stream api - Usage of frameworks like spring and hibernate - Patterns applied (e.g. aspects, execute around idiom, singletons,...) - Code generation Assessment: There will be some presentations regarding topics relevant for solving programming problems in class. There will be a project for homework which will be graded at the end of term. Therefore you must also present your result in an oral exam. Pre-requisites for this course are: - Intermediate skills in java programming - basic knowledge of git - basic knowledge of Java build tools If you have never written Java code before this course is not the right choice for you!
Literature	• Joshua Bloch: Effective Java, Addison-Wesley, 2008, ISBN: 978-0-321-35668-0 • Langer, Angelika; Kreft, Klaus: „Lambda Tutorial" http://www.AngelikaLanger.com/Lambdas/Lambdas.html • Brian Goetz, Joshua Bloch, Joseph Bowbeer, Doug Lea, David Holmes, Tim Peierls: Java Concurrency in Practice, Addison-Wesley, 2006, ISBN: 978-0321349606

Teaching formats of the courses	
Teaching format	**SWS**
Lehrvortrag	4

Workload	
Number of SWS	4 SWS
Credits	5,00 Credits
Contact hours	48 Hours
Self study	102 Hours

Module Examination	
Examination prerequisites according to exam regulations	None
MI123 - Mündliche Prüfung	Method of Examination: Mündliche Prüfung Duration: 20 Minutes Weighting: 20% wird angerechnet gem. § 11 Absatz 2 PVO: Yes Graded: Yes
MI123 - Projektbezogene Arbeiten	Method of Examination: Projektbezogene Arbeiten Weighting: 80% wird angerechnet gem. § 11 Absatz 2 PVO: Yes Graded: Yes

Miscellaneous	
Recommended Prerequisites	Pre-requisites for this course are: - Intermediate skills in java programming - basic knowledge of git - basic knowledge of Java build tools
Miscellaneous	If you have never written Java code before this course is not the right choice for you!