

Course

Software Architecture

Workbook

Open University of the Netherlands
Faculty of Management, Science & Technology

Course team

dr. ir. F. Aivaloglou, *course chairwoman and author*

dr. ir. S. Stuurman, *author*

prof. dr. A. Bijlsma, *author*

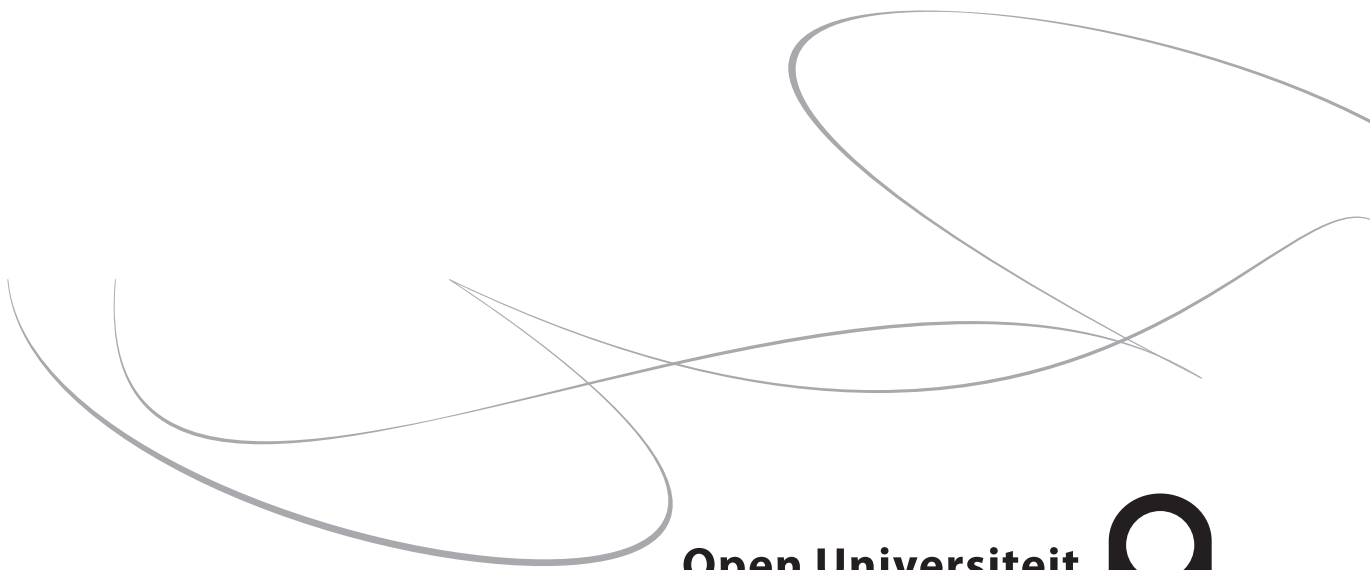
dr. B.J. Heeren, *author*

dr. E.E. Roubtsova, *author*

Program direction

prof. dr. M.C.J.D. van Eekelen

Software Architecture



Production
Open Universiteit

Lay-out
Maria Wienbröker-Kampermann

Cover
Team Visuele communicatie, Open Universiteit

Printing and binding
OCÉ Business Services

© 2018 Open Universiteit, Heerlen

Save exceptions stated by the law no part of this publication may be reproduced in any form, by print, photoprint, microfilm or other means, included a complete or partial transcription, without the prior written permission of the publisher.



This content is licensed under the Creative Commons license Attribution-Noncommercial-NoDerivs 4.0.

See licence for more details:

<https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode>

First edition 2014

Second edition: 2018

IM0203_50176_18102018

ISBN 978 94 92739 65 0 (series)
ISBN 978 94 92739 61 2 (workbook)

Course code IM0203

Structure of the course Software Architecture

Part		Page
Workbook	Learning Unit	
	1 Introduction to software architecture	7
	2 Requirements engineering and quality attributes	23
	3 Architectural patterns	39
	4 Description of architectures	63
	5 Analysis and Evaluation	81
	6 Enterprise architectures	87
	7 A Case Study	111
	8 Application integration	113
	9 Service-oriented architectures	133
	10 The REST architectural style	147
	11 Variability and composition	161
	12 Software product lines	173
	Definitions	187
Bibliography	189	
Index	194	
Reader	Articles	
	1 Agile Architecture: Strategies for Scaling Agile Development	
	2 Web Search for a Planet: The Google Cluster Architecture	
	3 Architectural Blueprints – The “4+1” View Model of Software Architecture	
	4 Applying Viewpoints and Views to Software Architecture	
	5 Software Architecture: Introducing IEEE Standard 1471	
	6 A Reference Architecture for Web Browsers	
	7 A Taxonomy and Survey of Cloud Computing Systems	
	8 Architectural Mismatch or Why it’s hard to build systems out of existing parts	
	9 Architectural Mismatch: Why Reuse Is <i>Still</i> So Hard	
	10 Introduction to Unix	
	11 Principled Design of the Modern Web Architecture	
12 The Bazaar inside the Cathedral: Business Models for Internal Markets		
Textbook	<i>Essential Software Architecture</i> , I. Gorton, Springer, 2006	
Course site	http://youlearn.ou.nl	