

Architectures for Software Systems Spring 2014 (17-655 and 17-755)

Class Meetings:

Class: Monday/Wednesday, 1:30PM - 2:50PM
Recitation: Fridays, 12:00PM – 1:20PM
Class Room: 300 South Craig Street, Room 265

Instructors:

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Required Texts

- Software Architecture in Practice, Third Edition, by Bass, Clements, Kazman, Addison-Wesley 2013 [BCK13].
- Architecting Software Intensive Systems: A Practitioner's Guide, Lattanze, Auerbach 2008 [ASIS08].
- Documenting Software Architectures: Views and Beyond, Second Edition, by Clements, et al. Addison-Wesley 2011 [C+11].
- We will also use a collection of supplementary readings, which will be available through the course web site.

Lecture Schedule – 2014

Lecture	Date	Major Topic	Lecture Topic	Assignment	Lecturer
Week 1					
1	Mon, Jan 13	Introduction	Course Overview and Software Architecture Defined	RQ1 Assigned	TL
2	Wed, Jan 15		Architectural Drivers		MB
Week 2					
XX	Mon, Jan 20	Martin Luther King Day – No Class		RQ2 Assigned	None
3	Wed, Jan 22	Structures	Structures and Properties	RQ1 Due;	TL
Week 3 (Tony Traveling 29-31)					
4	Mon, Jan 27	Documentation	Introduction to Documentation	RQ2 Due; RQ3 Assigned A1 Assigned	TL
5	Wed, Jan 29		Designing Architecture Documentation		MB
Week 4					
6	Mon, Feb 3	Dataflow Systems	Dataflow Styles	RQ3 Due; RQ4 Assigned	TL
7	Wed, Feb 5		Case Study		TL
Week 5					
8	Mon, Feb 10	Call-Return Systems	Call-Return Styles	RQ4 Due; RQ5 Assigned	TL
9	Wed, Feb 12		Client-Server and Tiered Architectures	Final Project Guidelines Posted	MB
Week 6					
10	Mon, Feb 17	Event Systems	Event Styles	RQ5 Due RQ6 Assigned A1 Due A2 Assigned	TL
11	Wed, Feb 19	Shared Info Systems	Middleware		TL
Week 7					
12	Mon, Feb 24		Case Study	RQ6 Due; RQ7 Assigned	Joao Sousa
13	Wed, Feb 26		Case Study		Joao Sousa
Week 8					
14	Mon, Mar 3		Repositories and Shared Information Systems	RQ7 Due; RQ8 Assigned	TL
15	Wed, Mar 5	Techniques and Methods	Guidance for the Architect	Final Project Descriptions; PhD Final Paper Proposals; A3 Assigned	TL
Week 9 (Matt Traveling)					
XX	Mon, Mar 10	Spring Break - No Class			
XX	Wed, Mar 12	Spring Break - No Class			

Week 10					
16	Mon, Mar 17		Design by Selection	RQ8 Due; RQ9 Assigned A2 Due	TL
17	Wed, Mar 19		Architecture Evaluation		MB
Week 11 (Matt Traveling 26-30)					
18	Mon, Mar 24		Strategic Reuse	RQ9 Due; RQ10 Assigned	TL
19	Wed, Mar 26		Case Study	Final Project Descriptions Due; PhD Paper Proposals Due	Christian Kastner
Week 12					
18	Mon, Mar 31		ACDM	RQ10 Due; RQ11 Assigned	TL
19	Wed, Apr 2	Architecture and Lifecycle	Architectures, Lifecycles, and Process – part 1		MB
Week 13					
20	Mon, Apr 7		Architectures, Lifecycles, and Process – part 2	RQ11 Due; RQ12 Assigned A3 Due; A4 Assigned;	MB
21	Wed, Apr 9	Architecting for X	Performance		TL
Week 14					
22	Mon, Apr 14		Availability	RQ12 Due RQ13 Assigned	TL
23	Wed, Apr 16		Security		MB
Week 15 (Matt Traveling 23-27)					
24	Mon, Apr 21		SOA		MB
25	Wed, Apr 23		Big Data	RQ13 Due; RQ14 Assigned	TJ Glazier
Week 15					
28	Mon, Apr 28		Cloud – Part 1	A4 Due	MB
29	Wed, Apr 30		Cloud – Part 2	RQ14 Due	MB
Week 16					
30	Mon, May 5		Final Project Presentations	Final Project Reports Due; PhD Final Papers Due	ALL
31	Wed, May 7		Final Project Presentations		ALL

Recitation	Date	Topic	Readings/Preparation
1	Fri Jan 17	Hints for Reading Assignments	Sample Q&A Reading
2	Fri Jan 24	Architecture Drivers Exercise	Mobile Marquee Product Description
3	Fri Jan 31	TBD	TBD
4	Fri Feb 7	A1 Discussion and Hints	None
5	Fri Feb 14	ACME Introduction	ACME Overview
6	Fri Feb 21	A1 Review and Reflection	None
7	Fri Feb 28	A2 Discussion and Hints	None
8	Fri Mar 7	A2 Review and Reflection	None
9	Fri Mar 14	NO RECITATION: SPRING BREAK	N/A
9	Fri Mar 21	A3 Discussion and Hints	None
10	Fri Mar 28	TBD	TBD
11	Fri Apr 4	Team Final Project Reviews	Preliminary Project Outlines
12	Fri Apr 11	NO RECITATION: CARNIVAL	N/A
13	Fri Apr 18	A3 Review and Reflection	None
14	Fri Apr 25	TBD	TBD
15	Fri May 2	As Needed	TBD