Course Syllabus

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Some recommended sources:

[Martin Fowler ▯ (https://martinfowler.com/)](https://martinfowler.com/)

[Joel Spolsky ▯ (https://www.joelonsoftware.com/)](https://www.joelonsoftware.com/)

Course Summary:

Date	Details	Due
Tue Sep 6, 2022	📅 **[4156 first day of class (https://courseworks2.columbia.edu/calendar?event_id=419223&include_contexts=course_154931)](https://courseworks2.columbia.edu/calendar?event_id=419223&include_contexts=course_154931)**	12am
	📝 **[Flamingo Book chapter 1 (https://courseworks2.columbia.edu/courses/154931/assignments/880083)](https://courseworks2.columbia.edu/courses/154931/assignments/880083)**	due by 10am
Thu Sep 8, 2022	📅 **[4156 upstream vs. downstream and build (https://courseworks2.columbia.edu/calendar?event_id=419239&include_contexts=course_154931)](https://courseworks2.columbia.edu/calendar?event_id=419239&include_contexts=course_154931)**	12am
Tue Sep 13, 2022	📅 **[4156 Maven demo and unit testing (https://courseworks2.columbia.edu/calendar?event_id=419224&include_contexts=course_154931)](https://courseworks2.columbia.edu/calendar?event_id=419224&include_contexts=course_154931)**	12am
Thu Sep 15, 2022	📅 **[4156 guest speaker (https://courseworks2.columbia.edu/calendar?event_id=419240&include_contexts=course_154931)](https://courseworks2.columbia.edu/calendar?event_id=419240&include_contexts=course_154931)**	12am
	📝 **[What Software Engineers Do All Day (https://courseworks2.columbia.edu/courses/154931/assignments/919194)](https://courseworks2.columbia.edu/courses/154931/assignments/919194)**	due by 10am
Fri Sep 16, 2022	📅 **[end of program change period (https://courseworks2.columbia.edu/calendar?event_id=419355&include_contexts=course_154931)](https://courseworks2.columbia.edu/calendar?event_id=419355&include_contexts=course_154931)**	12am
Mon Sep 19, 2022	📝 **[Assignment T0: Team Formation (https://courseworks2.columbia.edu/courses/154931/assignments/834539)](https://courseworks2.columbia.edu/courses/154931/assignments/834539)**	due by 11:59pm
Tue Sep 20, 2022	📅 **[4156 JUnit demo and finish Unit Testing (https://courseworks2.columbia.edu/calendar?event_id=419225&include_contexts=course_154931)](https://courseworks2.columbia.edu/calendar?event_id=419225&include_contexts=course_154931)**	12am
Thu Sep 22, 2022	📅 **[4156 Software Reuse and APIs (https://courseworks2.columbia.edu/calendar?event_id=419241&include_contexts=course_154931)](https://courseworks2.columbia.edu/calendar?event_id=419241&include_contexts=course_154931)**	12am

Date	Details	Due
Mon Sep 26, 2022	📝 **Assignment T1: Preliminary Project Proposal** (https://courseworks2.columbia.edu/courses/154931/assignments/834540)	due by 11:59pm
Tue Sep 27, 2022	📅 **4156 RESTful APIs and RESTful demo** (https://courseworks2.columbia.edu/calendar? event_id=419226&include_contexts=course_154931)	12am
Thu Sep 29, 2022	📅 **4156 RPC APIs and gRPC demo** (https://courseworks2.columbia.edu/calendar? event_id=419242&include_contexts=course_154931)	12am
Mon Oct 3, 2022	📝 **Assignment T2: Revised Project Proposal** (https://courseworks2.columbia.edu/courses/154931/assignments/834541)	due by 11:59pm
Tue Oct 4, 2022	📅 **4156 Mocking and Mocking/API Testing demo** (https://courseworks2.columbia.edu/calendar? event_id=419227&include_contexts=course_154931)	12am
Thu Oct 6, 2022	📅 **4156 finish Mocking demo, API Testing** (https://courseworks2.columbia.edu/calendar? event_id=419243&include_contexts=course_154931)	12am
	📝 **Unit Tests Are FIRST** (https://courseworks2.columbia.edu/courses/154931/assignments/930481)	due by 10am
Tue Oct 11, 2022	📅 **4156 finish Equivalence Partitions and Docker demo** (https://courseworks2.columbia.edu/calendar? event_id=419228&include_contexts=course_154931)	12am
Thu Oct 13, 2022	📅 **4156 Working in a Team and CheckStyle demo** (https://courseworks2.columbia.edu/calendar? event_id=419244&include_contexts=course_154931)	12am
Tue Oct 18, 2022	📅 **4156 Finding Bugs and another API testing demo** (https://courseworks2.columbia.edu/calendar? event_id=419229&include_contexts=course_154931)	12am
Thu Oct 20, 2022	📅 **4156 Finding Bad Code and gtest/gmock demo** (https://courseworks2.columbia.edu/calendar? event_id=419245&include_contexts=course_154931)	12am
	📅 **middle of semester** (https://courseworks2.columbia.edu/calendar? event_id=419356&include_contexts=course_154931)	12am

Date	Details	Due
	📝 **Coping with Hitchhikers and Couch Potatoes on Teams** (https://courseworks2.columbia.edu/courses/154931/assignments/935884)	due by 10am
Mon Oct 24, 2022	📝 **Assignment T3: First Iteration** (https://courseworks2.columbia.edu/courses/154931/assignments/834542)	due by 11:59pm
Tue Oct 25, 2022	📅 **4156 (In)Secure Coding** (https://courseworks2.columbia.edu/calendar?event_id=419230&include_contexts=course_154931)	12am
Thu Oct 27, 2022	📅 **4156 Design Principles and bugfinder demo** (https://courseworks2.columbia.edu/calendar?event_id=419246&include_contexts=course_154931)	12am
	📝 **A DevOps Cautionary Tale** (https://courseworks2.columbia.edu/courses/154931/assignments/936730)	due by 10am
Mon Oct 31, 2022	📝 **Assignment T4: First Iteration Demo** (https://courseworks2.columbia.edu/courses/154931/assignments/834543)	due by 11:59pm
Tue Nov 1, 2022	📅 **4156 Refactoring** (https://courseworks2.columbia.edu/calendar?event_id=419231&include_contexts=course_154931)	12am
	📅 **First Individual Assessment available** (https://courseworks2.columbia.edu/calendar?event_id=448038&include_contexts=course_154931)	12am
Thu Nov 3, 2022	📅 **4156 CI and github actions demo** (https://courseworks2.columbia.edu/calendar?event_id=419247&include_contexts=course_154931)	12am
Fri Nov 4, 2022	📝 **First Individual Assessment** (https://courseworks2.columbia.edu/courses/154931/assignments/834549)	due by 11:59pm
Mon Nov 7, 2022	📅 **academic holiday** (https://courseworks2.columbia.edu/calendar?event_id=419357&include_contexts=course_154931)	12am
Tue Nov 8, 2022	📅 **university holiday no class** (https://courseworks2.columbia.edu/calendar?event_id=419358&include_contexts=course_154931)	12am
Thu Nov 10, 2022	📅 **4156 Integration Testing and finish github actions demo** (https://courseworks2.columbia.edu/calendar?event_id=419248&include_contexts=course_154931)	12am
Tue Nov 15, 2022	📅 **4156 Architecture and MVC** (https://courseworks2.columbia.edu/calendar?event_id=419233&include_contexts=course_154931)	12am

Date	Details	Due
Thu Nov 17, 2022	📅 **4156 Design Patterns** (https://courseworks2.columbia.edu/calendar? event_id=419249&include_contexts=course_154931)	12am
Tue Nov 22, 2022	📅 **4156 CLASS CANCELLED** (https://courseworks2.columbia.edu/calendar? event_id=419234&include_contexts=course_154931)	12am
Wed Nov 23, 2022	📅 **academic holiday** (https://courseworks2.columbia.edu/calendar? event_id=419359&include_contexts=course_154931)	12am
Thu Nov 24, 2022	📅 **university holiday** (https://courseworks2.columbia.edu/calendar? event_id=419360&include_contexts=course_154931)	12am
Fri Nov 25, 2022	📅 **university holiday** (https://courseworks2.columbia.edu/calendar? event_id=419361&include_contexts=course_154931)	12am
Mon Nov 28, 2022	📝 **Assignment T5: Second Iteration** (https://courseworks2.columbia.edu/courses/154931/assignments/834544)	due by 11:59pm
Tue Nov 29, 2022	📅 **4156 Test Order and Auth0 demo** (https://courseworks2.columbia.edu/calendar? event_id=419235&include_contexts=course_154931)	12am
Thu Dec 1, 2022	📅 **4156 Debugging and Test Suite Quality** (https://courseworks2.columbia.edu/calendar? event_id=419251&include_contexts=course_154931)	12am
Mon Dec 5, 2022	📝 **Assignment T6: Second Iteration Demo** (https://courseworks2.columbia.edu/courses/154931/assignments/834545)	due by 11:59pm
Tue Dec 6, 2022	📅 **4156 Questions about Assessment and Test Oracles** (https://courseworks2.columbia.edu/calendar? event_id=419236&include_contexts=course_154931)	12am
Thu Dec 8, 2022	📅 **4156 Last Day Of Class** (https://courseworks2.columbia.edu/calendar? event_id=419252&include_contexts=course_154931)	12am
Fri Dec 9, 2022	📝 **Second Individual Assessment** (https://courseworks2.columbia.edu/courses/154931/assignments/834552)	due by 11:59pm
Mon Dec 12, 2022	📅 **last day of all classes** (https://courseworks2.columbia.edu/calendar? event_id=419362&include_contexts=course_154931)	12am
Tue Dec 13, 2022	📅 **study days** (https://courseworks2.columbia.edu/calendar? event_id=419364&include_contexts=course_154931)	12am

Date	Details	Due
Wed Dec 14, 2022	📅 **study days** (https://courseworks2.columbia.edu/calendar?event_id=419382&include_contexts=course_154931)	12am
Thu Dec 15, 2022	📅 **study days** (https://courseworks2.columbia.edu/calendar?event_id=419383&include_contexts=course_154931)	12am
Fri Dec 16, 2022	📅 **final exam period** (https://courseworks2.columbia.edu/calendar?event_id=419384&include_contexts=course_154931)	12am
Mon Dec 19, 2022	📅 **final exam period** (https://courseworks2.columbia.edu/calendar?event_id=419387&include_contexts=course_154931)	12am
	📝 **Assignment T7: Demo Day** (https://courseworks2.columbia.edu/courses/154931/assignments/834546)	due by 4pm
Tue Dec 20, 2022	📅 **final exam period** (https://courseworks2.columbia.edu/calendar?event_id=419388&include_contexts=course_154931)	12am
Wed Dec 21, 2022	📅 **final exam period** (https://courseworks2.columbia.edu/calendar?event_id=419389&include_contexts=course_154931)	12am
Thu Dec 22, 2022	📅 **final exam period** (https://courseworks2.columbia.edu/calendar?event_id=419390&include_contexts=course_154931)	12am
Fri Dec 23, 2022	📅 **final exam period** (https://courseworks2.columbia.edu/calendar?event_id=419391&include_contexts=course_154931)	12am
	📅 **4156 class** (https://courseworks2.columbia.edu/calendar?event_id=419124&include_contexts=course_154931)	
	📅 **4156 class: APIs** (https://courseworks2.columbia.edu/calendar?event_id=419152&include_contexts=course_154931)	
	📅 **4156 class: coding** (https://courseworks2.columbia.edu/calendar?event_id=419142&include_contexts=course_154931)	
	📅 **4156 class: continuous integration** (https://courseworks2.columbia.edu/calendar?event_id=419128&include_contexts=course_154931)	

Date	Details	Due

📅 **4156 class: CRC cards**
(https://courseworks2.columbia.edu/calendar?
event_id=419149&include_contexts=course_154931)

📅 **4156 class: debugging**
(https://courseworks2.columbia.edu/calendar?
event_id=419126&include_contexts=course_154931)

📅 **4156 class: design patterns**
(https://courseworks2.columbia.edu/calendar?
event_id=419140&include_contexts=course_154931)

📅 **4156 class: design principles**
(https://courseworks2.columbia.edu/calendar?
event_id=419134&include_contexts=course_154931)

📅 **4156 class: equivalence partitions**
(https://courseworks2.columbia.edu/calendar?
event_id=419143&include_contexts=course_154931)

📅 **4156 class: finding bugs**
(https://courseworks2.columbia.edu/calendar?
event_id=419154&include_contexts=course_154931)

📅 **4156 class: insecure coding**
(https://courseworks2.columbia.edu/calendar?
event_id=419135&include_contexts=course_154931)

📅 **4156 class: introduction**
(https://courseworks2.columbia.edu/calendar?
event_id=419156&include_contexts=course_154931)

📅 **4156 class: MVC**
(https://courseworks2.columbia.edu/calendar?
event_id=419120&include_contexts=course_154931)

📅 **4156 class: project issues**
(https://courseworks2.columbia.edu/calendar?
event_id=419133&include_contexts=course_154931)

📅 **4156 class: refactoring**
(https://courseworks2.columbia.edu/calendar?
event_id=419127&include_contexts=course_154931)

📅 **4156 class: running tests**
(https://courseworks2.columbia.edu/calendar?
event_id=419139&include_contexts=course_154931)

📅 **4156 class: SE4ML**
(https://courseworks2.columbia.edu/calendar?
event_id=419158&include_contexts=course_154931)

📅 **4156 class: test doubles**
(https://courseworks2.columbia.edu/calendar?

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	event_id=419148&include_contexts=course_154931)	

📅 **4156 class: test oracles**
(https://courseworks2.columbia.edu/calendar?
event_id=419150&include_contexts=course_154931)

📅 **4156 class: testing overview**
(https://courseworks2.columbia.edu/calendar?
event_id=419155&include_contexts=course_154931)

📅 **4156 class: UML**
(https://courseworks2.columbia.edu/calendar?
event_id=419136&include_contexts=course_154931)

📅 **4156 class: use cases and agile**
(https://courseworks2.columbia.edu/calendar?
event_id=419153&include_contexts=course_154931)

📅 **4156 class: user stories**
(https://courseworks2.columbia.edu/calendar?
event_id=419138&include_contexts=course_154931)

📅 **4156 class: working in teams**
(https://courseworks2.columbia.edu/calendar?
event_id=419146&include_contexts=course_154931)

📅 **academic holiday**
(https://courseworks2.columbia.edu/calendar?
event_id=419132&include_contexts=course_154931)

📅 **academic holidy**
(https://courseworks2.columbia.edu/calendar?
event_id=419144&include_contexts=course_154931)

📝 **Adjusted Team Project**
(https://courseworks2.columbia.edu/courses/154931/assignments/975361)

📅 **class cancelled**
(https://courseworks2.columbia.edu/calendar?
event_id=419125&include_contexts=course_154931)

📅 **demo day**
(https://courseworks2.columbia.edu/calendar?
event_id=419122&include_contexts=course_154931)

📝 **Differential Factor**
(https://courseworks2.columbia.edu/courses/154931/assignments/834547)

📝 **Edstem and/or Zoom Comments**
(https://courseworks2.columbia.edu/courses/154931/assignments/880082)

Date	Details	Due
	📅 **end of program change period** (https://courseworks2.columbia.edu/calendar?event_id=419121&include_contexts=course_154931)	
	📅 **first day of classes** (https://courseworks2.columbia.edu/calendar?event_id=419157&include_contexts=course_154931)	
	📅 **First Individual Assessment Ends** (https://courseworks2.columbia.edu/calendar?event_id=419145&include_contexts=course_154931)	
	📅 **First Individual Assessment Starts** (https://courseworks2.columbia.edu/calendar?event_id=419147&include_contexts=course_154931)	
	📅 **last day of classes** (https://courseworks2.columbia.edu/calendar?event_id=419151&include_contexts=course_154931)	
	📝 **Roll Call Attendance** (https://courseworks2.columbia.edu/courses/154931/assignments/927960)	
	📅 **second individual assessment posted** (https://courseworks2.columbia.edu/calendar?event_id=419141&include_contexts=course_154931)	
	📅 **study day** (https://courseworks2.columbia.edu/calendar?event_id=419129&include_contexts=course_154931)	
	📅 **study day** (https://courseworks2.columbia.edu/calendar?event_id=419137&include_contexts=course_154931)	
	📅 **thanksgiving** (https://courseworks2.columbia.edu/calendar?event_id=419130&include_contexts=course_154931)	
	📅 **university holiday** (https://courseworks2.columbia.edu/calendar?event_id=419123&include_contexts=course_154931)	
	📅 **university holiday** (https://courseworks2.columbia.edu/calendar?event_id=419131&include_contexts=course_154931)	