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| **Minor Award Name** | **Software Architecture** |
| **Minor Award Code** | **6N17778** |
| **Level** | 6 |

**Suggested resources to support delivery:**

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| --- | --- | --- | --- | --- |
| **Theme/Topic** | **Type** | **Relevance** | **Author/Source** | **Web Link** |
| **General systems theory**  | Website | Gives an introduction to Systems Theory its background and history. Its also gives and introduction to its link with Software and Computing | <http://environment-ecology.com/> | <http://environment-ecology.com/general-systems-theory/137-what-is-systems-theory.html#History> |
| **Systems Theory and Thinking** | Video | Excellent set of videos introducing and explaining Systems Theory and thinking. | Complexity Learning | <https://www.youtube.com/watch?v=dImyZdy2k7g&index=10&list=PLsJWgOB5mIMBinjH9ZAbiWiVxsizC5mU_> |
| **Organisational Structure** | Video | Video explaining and outlining the various types of organisational structure with types and examples. Also has useful quizzes and worksheets | [www.study.com](http://www.study.com) | <http://study.com/academy/lesson/what-is-organizational-structure-of-management-types-examples-quiz.html> |
| **Traditional SDLC models** | Tutorials | Tutorials on traditional SDLC models such as the Waterfall, V-Shaped, Incremental and Spiral Method Models |  | <http://www.tutorialspoint.com/sdlc/index.htm> |
| **Software Project Management and Feasibility Studies** | Book | Mastering Software Project Management - Explores all the various topics around managing Projects in a Software Development Organisation |  | [http://www.amazon.co.uk/Mastering-Software-Project-Management-Chemuturi/dp/1604270349/ref=sr\_1\_1?s=books&ie=UTF8&qid=1446475467&sr=1-1&keywords=9781604270341](http://www.amazon.co.uk/Mastering-Software-Project-Management-Chemuturi/dp/1604270349/ref%3Dsr_1_1?s=books&ie=UTF8&qid=1446475467&sr=1-1&keywords=9781604270341) |
| **Agile Software Development and Project Management** | Book / E-Book | Agile Project Management For Dummies | Mark C. Layton | [http://www.amazon.com/Agile-Project-Management-Dummies-Layton/dp/1118026241/ref=sr\_1\_2?s=books&ie=UTF8&qid=1445435205&sr=1-2&keywords=agile+project+management](http://www.amazon.com/Agile-Project-Management-Dummies-Layton/dp/1118026241/ref%3Dsr_1_2?s=books&ie=UTF8&qid=1445435205&sr=1-2&keywords=agile+project+management) |
| **Traditional Waterfall SDLC****vs****Modern Agile Software Development methodology** | Website | A very comprehensive article that outlines the main elements of the traditional Waterfall SDLC and the modern Agile Software Development methodology. Outlines the pros, cons and differences between them | www.codeproject.com | <http://www.codeproject.com/Articles/604417/Agile-software-development-methodologies-and-how-t> |
| **All UML diagrams including activity, interaction, sequence, state and use‐case diagrams** | Book | Learning UML 2.0 - Very good comprehensive book on all the UML diagrams and their uses. | Russell Myles and Kim Hamilton | [http://www.amazon.com/Learning-UML-2-0-Russ-Miles/dp/0596009828/ref=sr\_1\_2?s=books&ie=UTF8&qid=1446473090&sr=1-2&keywords=uml+diagrams](http://www.amazon.com/Learning-UML-2-0-Russ-Miles/dp/0596009828/ref%3Dsr_1_2?s=books&ie=UTF8&qid=1446473090&sr=1-2&keywords=uml+diagrams) |
| **Introduction to UML** | Website | <http://www.tutorialspoint.com/uml>, This is a website that provides and introduction to UML and how it is structured. It goes through the various components and how they interact to create a UML diagram.  | [www.tutorialspoint.com](http://www.tutorialspoint.com) | <http://www.tutorialspoint.com/uml> |
| **Use case diagrams** | Book | Use Case Quick Start Guide - Introductory book and all elements and uses of use case diagrams with good examples | Deetta Jennings-Balthazar | [http://www.amazon.co.uk/Use-Case-Quick-Start-Guide/dp/0557416337/ref=sr\_1\_6?s=books&ie=UTF8&qid=1445516486&sr=1-6&keywords=use+case+basics](http://www.amazon.co.uk/Use-Case-Quick-Start-Guide/dp/0557416337/ref%3Dsr_1_6?s=books&ie=UTF8&qid=1445516486&sr=1-6&keywords=use+case+basics) |
| **UML and Class Diagrams** | Book / E-Book | Schaum's Outline's UML (Schaum's Outline Series) - A step-by-step guide to the notation and use of UML including class diagrams.. Demonstrates the use of the techniques and notation of UML through case studies in systems analysis, showing the student clearly how UML is used in all kinds of practical situations.  | Simon Bennett and John Skelton | [http://www.amazon.co.uk/Schaums-Outlines-UML-Outline/dp/0077107411/ref=sr\_1\_16?s=books&ie=UTF8&qid=1445502219&sr=1-16&keywords=use+case+modelling](http://www.amazon.co.uk/Schaums-Outlines-UML-Outline/dp/0077107411/ref%3Dsr_1_16?s=books&ie=UTF8&qid=1445502219&sr=1-16&keywords=use+case+modelling) |
| **Creating Class Diagrams** | Website | Very good summary article on creating a class diagram | agilemodelling.com | <http://www.agilemodeling.com/artifacts/classDiagram.htm#Classes> |
| **Java integration with Class Diagrams** | Website | From this link you can download NetBeans IDE (Integrated Development Environment) version 8.0.2.There are a variety of UML plugins available through the software that will allow the user * Create Java Programs
* Create standalone UML Diagrams such as Use Case Diagrams, Class Diagrams and Activity Diagrams
* Reverse engineer Java programs into UML Class diagrams
* Forward engineer UML Class diagrams into Java Programs
 | Netbeans.org | <https://netbeans.org/downloads/> |
| **UML integration Net Beans** | Website Tutorial | Tutorial on how to integrate the Visual Paradigm modelling software with Net beans to reverse and forward engineer Java code and class diagrams. | Visual Paradigm | <http://www.visual-paradigm.com/tutorials/modelinginnetbeans.jsp> |
| **Testing** | E-Book | Software Testing: Essential Skills for First Time Testers: Software Quality Assurance: From scratch to end | Umer W. Ghazali | [http://www.amazon.com/Software-Testing-Essential-Testers-Assurance-ebook/dp/B00ICWK6RK/ref=sr\_1\_1?s=books&ie=UTF8&qid=1445435808&sr=1-1&keywords=software+testing](http://www.amazon.com/Software-Testing-Essential-Testers-Assurance-ebook/dp/B00ICWK6RK/ref%3Dsr_1_1?s=books&ie=UTF8&qid=1445435808&sr=1-1&keywords=software+testing) |
| **Project Management, Agile Development, Software Architecture, Many others** | Website | Excellent Resource with tutorials on Project Management, Agile Methodologies and many other in the area of Software Architecture and Development | http://www.tutorialspoint.com/ | <http://www.tutorialspoint.com/> |
| **Modelling Software** | Website | [www.draw.io](http://www.draw.io), This is a free online diagramming application which allows the user to draw UML diagrams, flowcharts and other general diagrams. These can be linked with and stored directly in google drive | jgraph.com | [www.draw.io](http://www.draw.io) |

**Useful Organisations:**

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| **Name** | **Contact Information** |
| Unified Modeling Language™ (UML®) Resource Page - Official homepage of the UML  | <http://www.uml.org/> |
| Net Beans Java IDE | <https://netbeans.org/> |
| Visual paradigm | <http://www.visual-paradigm.com> |
| Agile Alliance | <http://www.agilealliance.org/> |
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**Other Resources:**

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| **MOOCs (Massive Online Open Courses)** |
| Online courses delivered mainly by Universities and Colleges worldwide. Useful to search regularly for new courses and new start dates. Most courses are free. Charge often applies if assessment and certification is required. Provide excellent CPD for individuals or resources that can support teaching and learning.ITunes U - Large selection of free and paid courses once you have downloaded and installed the app | What is a MOOC? <https://www.youtube.com/watch?v=eW3gMGqcZQc>  List of MOOCs <https://www.mooc-list.com/> <https://www.coursera.org/> <https://www.udemy.com/> <http://www.extension.harvard.edu/open-learning-initiative> <https://www.uclaextension.edu/pages/search.aspx?c=free+courses> <http://oyc.yale.edu/> <http://www.apple.com/education/ipad/itunes-u/> |