

Mastering Systems Integration; Course Material

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Abstract

Listing the course material for the course Systems Integration

Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

June 5, 2018
status: planned
version: 0.5

logo
TBD

The Systems Integration course is partially derived from the Systems Integration and Test course developed at *TNO-ESI* by *Teade Punter, Frans Beenker, and many others.*

Introduction

core

Mastering Systems Integration; Introduction

<http://gaudisite.nl/info/MSIintro.info.html>

optional

Course Overview

core

Mastering Systems Integration; Course Overview

<http://gaudisite.nl/info/MSIoverview.info.html>

optional

Process and Positioning

core

Mastering Systems Integration; Process and Positioning

<http://gaudisite.nl/info/MSIprocessAndPositioning.info.html>

optional

SESA /SARCH Module 01, System Architecture Context

<http://gaudisite.nl/info/ModuleSystemArchitectureContext.info.html>

core

Course Systems Integration; Hardware, Software, System

<http://www.gaudisite.nl/info/MSIhardwareSoftwareSystem.info.html>

optional

Tutorial Software as Integrating Technology in Complex Systems

<http://gaudisite.nl/info/TutorialSoftwareAsIntegratingTechnology.info.html>

Terminology

core

Course Systems Integration; Terminology

<http://www.gaudisite.nl/info/MSIterminology.info.html>

optional

Understanding Objective Evidence: (What It Is and What It Definitely Is Not),
by Denise Dion

http://www.eduquest.net/Advisories/EduQuest%20Advisory_ObjectiveEvidence.pdf

List of Cognitive Biases, Wikipedia:

https://en.wikipedia.org/wiki/List_of_cognitive_biases

core

Mastering Systems Integration; Economic Perspective

<http://gaudisite.nl/info/MSIeconomicPerspective.info.html>

optional

Simplistic Financial Computations for System Architects.

<http://gaudisite.nl/info/SimplisticFinancialComputations.info.html>

Visualizing Dynamic Behavior

core

Visualizing Dynamic Behavior

<http://gaudisite.nl/info/VisualizingDynamicBehavior.info.html>

optional

Creating an A3 Architecture Overview; a Case Study in SubSea Systems by Gerrit Muller, Damien Wee, and Martin Moberg; INCOSE 2015 in Seattle, WA, USA

http://gaudisite.nl/INCOSE2015_MullerEtAl_SubseaOverviewA3.pdf

core

Course Systems Integration; Early Validation

<http://www.gaudisite.nl/info/MSlearlyValidation.info.html>

optional

System Integration How-To

<http://www.gaudisite.nl/info/SystemIntegrationHowTo.info.html>

Save Money by Investing In Models; Failing Early is More affordable Than Failing Late

<http://gaudisite.nl/SaveMoneyInvestInModelsSlides.pdf>

Light Weight Architectures; The way of the future?

<http://gaudisite.nl/info/LightWeightArchitecting.info.html>

core

Course Systems Integration; Project Management

<http://gaudisite.nl/info/MSIprojectManagement.info.html>

optional

Combating Uncertainty in the Workflow of Systems Engineering Projects

INCOSE 2013, Barry Papke and Rick Dove

core

Course Systems Integration; Testing

<http://www.gaudisite.nl/info/MSItesting.info.html>

optional

What is wrong with Reliability Engineering, by R.W.A. Barnard, Proceedings of INCOSE 2008 in Utrecht.

Highly accelerated life test

https://en.wikipedia.org/wiki/Highly_accelerated_life_test

Readiness Levels

core

Course Systems Integration; Readiness Levels

<http://www.gaudisite.nl/info/MSIreadinessLevels.info.html>

optional

From TRL to SRL: The Concept of Systems Readiness Levels

CSER 2006, Brian Sauser et al.

Technology Readiness Levels

https://en.wikipedia.org/wiki/Technology_readiness_level

core

Mastering Systems Integration; System of Systems

<http://gaudisite.nl/info/MSIsystemOfSystems.info.html>

optional

J. Dahmann and K. Baldwin. 2008. "Understanding the Current State of US Defense Systems of Systems and the Implications for Systems Engineering." IEEE Systems Conference 2008 in Montreal, 2008.

Boardman, J. and B. Sauser, System of Systems - the meaning of of, in IEEE/SMC International Conference on Systems of Systems Engineering. 2006, IEEE: Los Angeles.

Gorod, A., White, B.E., Ireland, V., Gandhi, J.S., and Sauser, B., (editors) "Case studies in System of Systems, Enterprise systems, and Complex Systems Engineering", CRC Press, 2014.

core

Course Systems Integration; Software and Integration

<http://www.gaudisite.nl/info/MSIsoftwareAndIntegrationinfo.html>

optional

Tutorial Software as Integrating Technology in Complex Systems

<http://gaudisite.nl/info/TutorialSoftwareAsIntegratingTechnology.info.html>