

Systems Engineering Fundamentals; Course Material

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Abstract

Listing the course material for the course Systems Engineering Fundamentals.

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logo
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Introduction

core

Systems Engineering Fundamentals Introduction

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

optional

Course Overview

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Systems Engineering Fundamentals Course Overview

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

optional

Assignments

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Systems Engineering Fundamentals Assignments

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

optional

Programs, Projects, Process, Organization

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Project Systems Engineering Introduction; Phasing, Process, Organization

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

Module System Architecture Context

<https://gaudisite.nl/ModuleSystemArchitectureContextPaper.pdf>

Products, Projects, and Services; similarities and differences in architecting

<https://gaudisite.nl/ProductsProjectsServicesPaper.pdf>

optional

System Engineering Management Plan (SEMP) DOES ONE SIZE FIT ALL?

Zonnenshain, A., Malotaux, N., Honour, E., Kasser, J., Urio, U., Shabtay, M.,
INCOSE 2009

Systems Engineering Management Plan (SEMP) Technical Content

<https://www.nasa.gov/consortium/SystemsEngineeringManagementPlanTechnicalContent>

core

Systems Engineering Fundamentals Life Cycle

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

Modeling and Analysis: Life Cycle Models

<https://gaudisite.nl/MAlifeCyclePaper.pdf>

optional

SEBoK Life Cycle models

https://www.sebokwiki.org/wiki/Life_Cycle_Models

Needs and Requirements

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Systems Engineering Fundamentals Needs Elicitation

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

optional

SEBoK Stakeholder Needs and Requirements

https://www.sebokwiki.org/wiki/Stakeholder_Needs_and_Requirements

Requirements Management

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Systems Engineering Fundamentals Requirements Management

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

Fundamentals of Requirements Engineering

<https://gaudisite.nl/FundamentalsOfRequirementsPaper.pdf>

optional

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Concept Selection, Set Based Design and Late Decision Making

<https://gaudisite.nl/SEFconceptSelectionSlides.pdf>

optional

Concept Selection - Applying Pugh Matrices in the Subsea Processing Domain by Linda Lønmo and Gerrit Muller; INCOSE 2014 in Las Vegas

https://gaudisite.nl/INCOSE2014_Lonmo_Muller_ConceptSelection.pdf

Researching the application of Pugh Matrix in the sub-sea equipment industry by Gerrit Muller, Dag Jostein Klever, Halvard H. Bjørnsen, and Michael Pennotti; CSER 2011 in Los Angeles

https://gaudisite.nl/CSER2011_MullerEtAl_ResearchingPughMatrix.pdf

Visualizing Dynamic Behavior

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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

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Systems Engineering Fundamentals Supply Chain and Logistics

<https://gaudisite.nl/SEFsupplyChainSlides.pdf>

optional

Build to order https://en.wikipedia.org/wiki/Build_to_order

P-D Ratios <https://oldleandude.com/2015/05/27/p-d-ratios/>

core

Systems Engineering Fundamentals Risk Management

<https://gaudisite.nl/SEFriskManagementSlides.pdf>

optional

Failure Mode and Effects Analysis

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

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

Systems Integration Process and Positioning

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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>

Project Management and Systems Integration

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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

Verification and Validation Terminology

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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