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
TBD

Introduction

core

Systems Engineering Fundamentals Introduction

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

optional

Course Overview

core

Systems Engineering Fundamentals Course Overview

http://gaudisite.nl/info/SEFoverview.info.html

optional

Assignments

core

Systems Engineering Fundamentals Assignments

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

optional

Programs, Projects, Process, Organization

core

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

Life Cycle

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

core

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

Concept Selection

core

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

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

Supply Chain and Logistics

core

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/

Risk Management

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

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

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

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