



DEFENSE ACQUISITION UNIVERSITY

STM 202 Intermediate S&T Management

100412

Course Learning/Performance Objectives followed by its enabling learning objectives on separate lines if specified.

1	Explain the six (6) principles of technology transition and provide rationale for each as a team consensus view.
	Construct team's consensus view of six (6) critical factors complete with rationale to maximize opportunities for transition.
	Compare other team's consensus view.
2	Apply concepts of Integrated Product & Process Teams (IPPD) and Integrated Product Team (IPT) in achieving team consensus.
	Describe the five (5) summarized principles of IPPD.
	Illustrate the steps used to avoid group think.
3	Assess DoD's need to accomplish S & T.
	Explain DoD's goal of maintaining the US existing conventional and strategic technology edge against other military forces.
	Explain National Defense Strategy: balance current conflict, maintaining existing forces, and retaining successful cultural traits.
4	Discuss the reasons why managing S&T programs requires an adaptive resolve in the conduct of research activities.
	Explain how the complex operating environment affects technology.
	Explain the forces of technological change in the world.
5	Summarize Global instability implications.
	Explain how DoD shifts strategic investments to meet challenges.
	Explain how basic research areas are emphasized.
6	Summarize the lessons learned in the transition from Research & Development to Program of Record; Research Perspective.
7	Explain the concept of technology transition.
	Explain what "Transition" means in the Acquisition process.
	Describe the barriers for science & technology's ability to transition.
8	Explain the different transition paths and entry points.
	Explain how new technologies enter the Acquisition Process depending on concept maturity.
	Describe the transition planning factors for each entry point.
9	Summarize the programs that DDR&E has that facilitate transition.
	Describe other unique paths of the separate Transition programs used by DDR&E to expedite transition.
	Summarize other DDR&E programs utilized to expand the industrial base.
10	Compare the techniques defining readiness of Technology, Manufacturing, & Integration.
	Classify how Readiness Levels are measures of assessing maturity prior to incorporation in higher assembly.
	Relate how Readiness Levels define the basis for management to make programmatic decisions.
11	Analyze & classify differences between Technology & Manufacturing Readiness Levels.
	Assess the mutual dependence of a technology capability to operate in relevant environment and its capability to be manufactured.
	Describe the steps required in the process evolution of MRL
12	Explain the basis for Critical Technology Element (CTE) classification.
	Illustrate why a CTE being 'new' is a critical consideration.
	Explain why a CTE must be traceable to an operational requirement in order to be certified
13	Describe the conduct of Technology Readiness Assessment by Service S&T Executive, formally reviewed by DUSD (S&T).
	Summarize Other Outcomes if DUSD (S&T) does not agree with Service findings of TRL 6.
	Illustrate the impact of untradeable immature technologies on a program.
14	Explain Technology Transition Agreements when a technology is transitioned by developer to Ongoing Program Manager.
	Describe the integration strategy components of a Technology Transition Agreement.
	Explain the importance of EXIT criteria in Technology Transition Agreement.
15	Analyze the key aspects of requirements.
	Explain why a requirement must be within the state of the art and resources.
	Explain why technical language is used to translate user capability requirements into what it should do and how well it should do it.
16	Explain what is involved with laying out a technology roadmap including the scope.
	Describe the phases of Road Mapping processes
	Illustrate why a road map is a process to be used in the development of the end product capability



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17	Describe the concept of a stage gate process.
	Classify how the stage gate process is separated into discrete phases of deliverables
	Relate how entry criteria and exit strategies control the path to achieving or terminating technology's goals
18	Recognize the key issues of international cooperation and technology security
	Explain how the sharing of technology with other nations is bounded by laws and regulations even with our friends.
	Summarize what governmental departments control foreign military or direct sales, dual use, or cooperative acquisition.
19	Compare the tradeoffs between minimizing risk and maximizing opportunity.
	Describe the different categories of Risk in technological development.
	Explain why Opportunity Management in S&T prior to MS B is very different from Ongoing Programs after MS B.
20	Summarize the lessons learned in the transition from Research & Development to Program of Record; Program Perspective.
21	Analyze how the systems engineering technical and Tech MGT processes apply to technology development.
	Describe how S&T efforts apply the systems engineering administrative management processes
	Describe how systems engineering technical process are used by S&T activities
22	Recognize how software impacts technology development.
	Illustrate how well documented open architecture software modules facilitate transition.
	Explain how software is usually on the critical path.
23	Explain the different techniques to verify that technology performs as expected.
	Illustrate how modeling, simulation and open air test define the attainment of operational thresholds / goals in relevant environment.
	Describe how verification methods must be tailored to the development stage to recognize the importance of documented verification results.
24	Compare classification differences of Intellectual Property (IP).
	Relate how the holder of the "exclusive rights" to creative work, such items as Copyright, Patents, Technical Data, and Computer software are protected by law.
	Analyze what IP rights the government needs to protect.
25	Summarize and discuss Planning, Programming, Budgeting and Execution (PPBE) elements.
	Recognize the long planning horizon required to budget project funds.
	Describe various cost estimating methods.
26	Describe Federal Acquisition Regulations (FAR / DFAR) administrative processes.
	Recognize how the different solicitation types: Broad Agency Announcements (BAA) & Request for Proposal (RFP) are used to contract for technology development.
	Explain the roles & responsibilities of Contract Officers: Procuring Contracting Officer (PCO) , Administrative Contracting Officer (ACO) , Contracting Officer Representative (COR) or Contracting Officer Technical Representative (COTR).
27	Describe the application of Non-Far Assistance Instruments.
	Summarize the methods used to solicit participation of traditional and non-traditional contractors, research institutions, & non profits using Research Announcements (RA) directed toward: Grants, Cooperative Agreements, Technology Investments Agreements (TIA).
	Summarize how federal and non-federal parties may cooperate in a Cooperative Research & Development Agreement (CRADA).
	Illustrate how Programmatic Financial Set-A- Sides are used to support Small Business in Innovative Research (SBIR) & (STTR).
28	Describe the impact of DoD financial management policies on programs.
	Summarize the Congressional Appropriation / Apportionment process flow down to the Allotment to using office.
	Summarize the RDT&E execution requirements.
29	Explain the techniques to track contractor performance against business targets.
	Describe how monitoring contractors via Reports (Funds & Man Hour Status) Obligations & Expenditures indicates status.
	Recognize the need for meetings and reports to monitor contractor performance.
	Describe how financial management techniques such as funds management are used to monitor contractor performance.
30	Explain the Earned Value Management (EVM) concepts.
	Recognize how formal EVM is used on projects over 20 million dollars.
	Explain how the principles of EVM can be tailored for contracts UNDER 20 million dollars.



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31	Summarize the organizational structure and protocols associated with science & technology management: Director, Defense Research & Engineering (DDR&E) Army, Navy, Air Force and Defense Agencies: Defense Advanced Research Projects Agency (DAPRA), Defense Threat Reduction Agency (DTRA), National Geospatial-Intelligence Agency (NGA), Missile Defense Agency (MDA).
	Describe DDR&E's responsibilities to develop strategies exploiting newly developed technology.
	Explain how each Service or Agency exploits new technologies.
32	Describe best practices used to transition technologies.
	Summarize technology transition techniques.
	Explain characteristics of successful technology development transitions.