
Langley Systems Engineer Development Program (SEDP)

Developing Systems Engineers through
Experience, Mentoring , & Training

SEDP Need and Goal

- Critical need for systems engineers to support current and expected programs and projects in Exploration, Science, and Aeronautics
 - The goal of the SEDP is to leverage the expertise, skills, and knowledge of discipline specific researchers and engineers to develop systems engineers
 - Program
 - Utilizes Experience, Mentorship, and Training
 - 6 – 18 months depending on experience
 - 10-12 participants per class (two in integration)
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SEDP Community

- Community Led by Engineering Directorate
 - Includes active participation from across Center
 - Established Systems Engineering Technical Excellence Committee (SETEC)
 - Promotes SE Excellence through formal and informal mechanisms such as product reviews, targeted lectures from industry and academia, mentorship, and lunch-time workshops
 - Developing MBSE community via pilots working with SEWG
 - Integration into overall SE long term
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Outline of Activities: Experience, Mentoring, and Training

- Experience
 - Assign trainees to projects/tasks that require application of skills and opportunity to expand SE knowledge base
 - Mentoring
 - Assign a Senior System or Chief Engineer from a different project/task
 - Training: On-the-job
 - By experienced System and Chief Engineers on the same project/task
 - Day-to-day interaction to achieve shared project goals, objectives, and tasks
 - Conduct Systems Engineering Field Trips
 - Utilize recognized expertise in NASA and Industry
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Outline of Activities: Experience, Mentoring, and Training ...cont

- Training: Classroom
 - NASA Academy of Program/Project & Engineering Leadership (APPEL) Baseline
 - Mandatory APPEL Level 1 (Awareness) and Level 2 (Application) courses
 - Priority over all other assignments
 - Additional APPEL courses as schedule permits
 - Industry, Academia, Other Government Agencies
 - On-site vendor supplied SE courses
 - Local (or virtual) university SE courses
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SEDP Implementation

- Identify Desired Attributes of Candidates
 - Engineers (by degree or experience)
 - Design and development experience
 - Systems Thinker, Problem Solver, Leadership Potential
 - Desire to lead complex technical development activities
 - Identify Desired Skill Level of Candidates
 - Entry Level
 - No experience (GS 7-9), likely post SEDP assignments would be support role
 - Junior Discipline Level
 - Some flight project experience (GS 11-13)
 - Senior Discipline Level
 - Little flight project experience (GS 14-15)
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SEDP Implementation

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- Select Candidates
 - Assign Candidates to Projects and Mentors
 - 6-18 month assignments
 - Conduct Evaluation
 - Director/Branch Head, OJT Trainer, and Independent Mentor
 - Assign Successful Candidates to SE Positions
 - Success = Demonstrated SE skills/attributes and desire
 - Integrate Successful Candidates into SE Positions
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