

**AFSC 16K4, Staff**  
**AFSC 16K3, Qualified**  
**AFSC 16K1, Entry**

**SOFTWARE DEVELOPMENT OFFICER (SDO)**  
**(Established 30 Apr 19)**

**1. Specialty Summary.** Designs, develops, or manages the development of bespoke software or software-intensive weapon systems. Provides advice and leadership in the acquisition and operational communities on the development and deployment of modern software capabilities, to include the usage of commercial products.

**2. Duties and Responsibilities**

2.1. Software Development Officer positions include billets with a modern software focus at AFMC, Air Staff, MAJCOMs, NAFs, and operations units that use software-intensive weapon systems.

**2.2. Product Manager (M Suffix)**

2.2.1. Defines and prioritizes product features using Agile/Lean product development practices

2.2.2. Works with the project team, leadership, stakeholders, and other PMs to progress the goal of shipping the right product to users.

2.2.3. Ensures that the product is successful in terms of user value, stakeholder value, and organizational business goals

**2.3. Product Designer (D Suffix)**

2.3.1. Makes daily product decisions, works on a collaborative team, pairs with team members, and helps ensure user satisfaction using lean and agile methodologies

2.3.2. Understands user needs and solves the right problems to deliver new or improved products and services that meet the needs of the Air Force.

2.3.3. Practices and is willing to learn any/all of the dimensions of design - research, testing, ux, visual, css, etc.

**2.4. Software Engineer (E Suffix)**

2.4.1. Researches problems and breaks them into deliverable software iterations

2.4.2. Exhibits strong communication skills/ works in an individual- or pair-programming environment

2.4.3. Uses Lean, Extreme Programming, User Centered Design and Agile methodologies

**2.5. Data Scientist (S Suffix)**

2.5.1. Transforms problem statements into analysis, uses computer-based models and simulation to find optimal solutions, and communicates results

2.5.2. Creates visualizations and implements dashboards for key performance indicators

2.5.3. Uses Lean, Extreme Programming, User Centered Design, and Agile methodologies

**3. Special Duty Qualifications**

**3.1. Knowledge**

3.1.1. Product Manager: Ability to architect the future of products by bridging engineering and business through the management of a product's full lifecycle, from strategic planning to development and launch, in order to generate value for combat capabilities

3.1.2. Product Designer: Ability to create intuitive, innovative, and effective products that military operators love, through learning and understanding of users' needs, behaviors, and emotions to yield insights that inform product strategy and guide the design of the software and systems.

3.1.3. Software Engineer: Ability to develop complex, software systems that scale globally to meet the demands of warfighters across multiple domains, through the full range of development activities, to include web application development, platform development, mobile application development, distributed and parallel systems, machine learning, information retrieval, natural language processing, networking, and/or security software development.

3.1.4. Data Scientist: Ability to find patterns in large data sets using computer science techniques to help team members with different levels of understanding and expertise to make data driven business decisions that increase effectiveness or efficiency of operational forces.

**3.2. Education.**

3.2.1. Undergraduate or graduate education related to computer science, computer engineering, is desirable, but not required for E suffix.

3.2.2. Undergraduate or graduate education related to operations research, mathematics, statistics, economics, or data science is required for S suffix

**3.3. Training.**

3.3.1. Specific training will be determined by the gaining organization and can include on-the-job training or specialized training through commercial programs.

**3.4. Experience.**

3.4.1. No specific experience is required for 16K1X. Award of this AFSC is granted upon assignment into a 16K designated billet.

3.4.2. For award of 16K3X, a minimum of 12 months experience in a software development assignment is required

3.4.3. Officers may not fill a 16K4X position without 12 months previous experience as part of an operational software development team

#### 4. Specialty Shredouts

<i>Suffix</i>	<i>Portion of AFS to Which Related</i>
D	Product Designer
E	Software Engineer
M	Product Manager
S	Data Scientist