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Functional Area 53

# **Systems Automation Officer**

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## Functional Area 53

### Systems Automation Officer

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## 1. The Systems Automation Officer

*a.* The Systems Automation Officer Functional Area (FA) provides officers of all branches the opportunity to serve in positions requiring technical competence in the fields of computer science, data processing, and systems management. Officers manage the development of software systems; the integration of software, hardware, and data communications; automated systems and related systems; and serve as staff officers and consultants. The Systems Automation Officer normally performs the following functions:

- The planning, organizing, directing, coordinating, controlling, and budgeting for automated systems and services supporting functional users, commanders, and staffs.
- Commands automation support activities.
- Advises commanders and staffs on the employment of automation and related technologies and systems security.
- Supervises and performs computer systems analysis design, prototyping, development, testing, training, and computer systems installation.
- Manages computer and automation systems for much of the Army.

*b.* Automation technology and automated systems permeate every area of the Army. Automation enables more efficient management of resources, supports the decision maker, and is a combat multiplier. Thus, over 1000 requirements exist for the Systems Automation Officer within the Army. To accomplish this mission the System Automation Officer FA encompasses three areas of concentration (AOC) and one skill.

*c.* Areas of Concentration

53A — Software Engineering Officer

53B — Hardware Engineering Officer

53C — Automation Management Officer

Skill 4H — Branch Automation Officer



Figure 1. Functional Area Participation

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## 2. Functional Area Participation

*a.* Participation in this FA is open to both male and female officers. Officers are assigned this FA designation normally in their eighth year of commissioned service. Officers seeking selection to the Systems Automation Officer FA should possess an undergraduate degree in computer science, information systems management, computer engineering, or an undergraduate degree with a minor in computer science.

*b.* Since FA 53 is not a means of accessing officers, very few requirements exist for lieutenants; however, high technology enrichment programs do exist which provide gateways for selected lieutenants to enter FA 53 early in their careers. These programs provide for graduate study and follow-on utilization assignments.

## 3. Role of the Systems Automation Officer

The Systems Automation Officers will apply their skills and knowledge of computer science, systems engineering, and information management to a wide variety of challenging problems within the Army. The officer is an integrator of

military functions, scientific technologies, and management tools to solve Army problems. The complexity and magnitude of Army Automation coupled with the rapid advances in automation technology pose an enormous challenge to the Systems Automation Officer. Systems Automation Officer positions require leadership skills as well as technical skills. A general description of the three Areas of Concentration and Skill are provided below. A more detailed description of each AOC and the skill is contained in DA Pam 600-3.

#### 4. 53A: Software Engineering Officer

*a.* Officers qualified in AOC 53A are the Army's experts in software life cycle management and software engineering. They apply the tools associated with software engineering, software requirements specifications, quality assurance, system design, system implementation, and system acquisition. The spectrum of principle duties includes supervising or performing duties as an analyst, designer, developer, contracting officer technical representative, configuration manager, and fielding specialist for software systems for the full range of systems from micro-computers through mainframes. Duty positions are normally at the captain and major level.

*b.* Typical positions are:

- Software Engineer
- Systems Analyst
- Data Base Administrator
- Program/Project Manager
- Information Management Staff Officer
- Service School Instructor



Figure 2. FA 53 Officers are involved in all functions of software development.

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*c.* Qualifications for acceptance in AOC 53A includes:

- Successful completion of the 53A Systems Automation Course at the U. S. Army Computer Science School in Fort Benjamin Harrison, IN.
- An undergraduate degree in computer science or an undergraduate degree with a minor in computer science.
- Officers who do not have a prerequisite degree may still be selected to attend 53A training if they have attended the Branch Automation Officer (Skill 4H) Course at the Computer Science School, and have one year experience in an assignment requiring the 4H skill.



Figure 3. Officers are trained on computer systems that provide support to tactical elements in the Army.

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Figure 4. Officers also learn the many diverse applications of software in the School's fully equipped microcomputer lab.

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## 5. 53B: Hardware Engineering Officer

*a.* Officers in AOC 53B are the Army's experts in computer hardware systems configuration design; the integration of hardware, software, and data communications; distributed processing, and office automation. They:

- Design automated management systems architecture.
- Plan and conduct integrated systems tests.
- Design, acquire, install, and manage integrated office automation systems.
- Conduct research and development for future computer/automation systems.

*b.* Examples of duty positions are:

- Systems Integration Officer
- Systems Analyst
- Systems Manager
- Configuration Engineer
- Configuration Manager
- Service School Instructor

*c.* Qualifications for acceptance into AOC 53B include:

- Completion of all requirements for AOC 53A.
- Successful completion of the 53B training course at the U.S. Army Computer Science School.

- Constructive credit may be granted for experience, advanced degree credits, and civilian training.

*d.* The 53B training is a continuation of technical studies for the FA 53 officer. It addresses the integration of system components (hardware, software, and communications) to satisfy requirements for automation systems. It encompasses automation within the office environments as well as the study of hardware configurations and capacity, software capacity requirements, and data communication requirements for system components.

## **6. 53C: Automation Management Officer**

*a.* The AOC 53C encompasses command, management, and staff positions in 24 major Army commands. These positions require expertise in project management; management of automated systems development and integration; management control systems; management of automation services and support activities; information center management; office automation; acquisition, including monitoring contracts, writing contract specifications, writing performance work statements, and contract proposal evaluation; battlefield automated systems; the Army corporate database; and information management policies, procedures, and doctrine. Principal duties include:

- Information Management Staff Officer at all levels.
- Advisor to commanders and staff on information management and automation policy and technical matters.
- Commander/director of automation service and support activities.
- Project manager for automation and information management projects.

*b.* Examples of duty positions are as follows:

- Automation Management Officer
- Director of Automation Support
- Director of Information Management
- Program/Project Manager
- Commander (non OPMS selected)
- Information Management Staff Officer
- Service School Instructor

*c.* Qualifications for acceptance into AOC 53C include:

- Complete all requirements for AOC 53A.
- Successfully complete a utilization tour as a 53A or 53B.
- Successfully complete AOC 53C training (to be developed) at the U.S. Army Computer Science School.
- Constructive credit may be granted for experience, related military training, and academic credits.

*d.* The 53C training addresses security, management of automation and information management services and support facilities and activities, information systems planning, information management planning, systems management, and management control systems.



Figure 5. Officers in FA 53 manage the Army's mainframe computer systems.

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### **7. Branch Automation Officer (skill 4h)**

*a.* Skill 4H identifies positions, which require branch expertise first and a significant knowledge of automation systems acquisition, design, development integration, and management controls second. Duties are normally associated with functional systems which are enhanced by or are dependent upon automation technology and are aligned with the Army Command and Control Master Plan.

*b.* Most branches in the Army have positions requiring officers with the Skill 4H in—the grade of lieutenant through colonel.

*c.* An officer is qualified for the award of Skill 4H if he successfully completes the Branch Automation Officer's course at the U.S. Army Computer Science School.

### **8. Professional Development Objectives**

*a.* The Systems Automation Officer FA provides for progressive career development through training and challenging command and staff assignments for officers in the grades of captain through colonel. Officers designated FA 53 will initially be assigned AOC 53A. Positions requiring AOC 53A or 53B exist for officers in the grades of captain through lieutenant colonel. Positions requiring 53C exist for officers in the grades of major through colonel. A small number of positions do exist for captains in AOC 53C and should be filled only with senior captains who meet AOC 53C qualifications.

*b.* Approximately one fourth of the FA 53 positions require advanced degrees in computer science related disciplines. These positions have been validated by the Army Education Requirements Board and provide selected officers in the rank of captain and major the opportunity to obtain an advanced degree in computer science through a fully-funded master's degree program.



**Figure 6. FA 53C, Automation Management Officers Command Automation Service and Support Activities.**

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### **9. Assignment Patterns**

The OPMS provides for two assignment patterns for the FA 53 officer, single or dual tracking. Officers requesting and selected for single tracking will be repetitively assigned to FA 53 positions. The increased knowledge and experience gained through repetitive assignments will better prepare the Systems Automation Officer to solve Army problems through technically challenging assignments to positions of greater responsibility. A graduate degree will be career enhancing for officers selected to single track. Officers with a dual track career will alternate between branch and FA 53 jobs. To remain technically cognizant while working in branch jobs the officer should seek those branch assignments which require the 4H skill, Branch Automation Officer. Skill 4H qualifications are a subset of the FA 53 qualifications. The officer will be able to apply both branch and functional area skills and knowledges to the job.

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