

Samuel Liles, PhD

Why do you want one?

Certifications (CISSP)

Slides are available at: selil.com

Who am I?

- Dr. Samuel Liles (CERIAS Faculty, Alumni)
- Nobody Special, nobody important
- Associate Professor COT, CNIT
- AA, BA, BSCS, MSCS, C++ Cert, Cert in IA Ed, PhD Technology, CISSP
- Twitter: @selil
- Blog: <http://selil.com>
- LinkedIn
- Military, law enforcement, information technology industry, higher education, next?

If you are learning infosec

- You either want to work for government
 - Low pay but not the lowest
 - Lots of stress but not the most
- You want to maybe work for industry
 - High pay, high stress
- You could be talked into “working” for academia
 - Low pay, low stress
- You basically want a job, but could consider working for yourself

What are certifications?

- NTISSI 4011, 4012, 4013, etc and now NICE are a listing of knowledge, skills and abilities for a chosen job role.
- CAE-E, R, O, CDFAE are US government accreditation of programs for job **training** or response to requirements
- Regional accrediting bodies (HLC previously NCA, Southern States) are pseudo governmental entities that accredit universities that award **degrees** (Title IV gatekeeper).
- ABET is non-governmental accreditation of programs as academic **education**
- CISSP, CEH, A+, Net+ are career certifications for the individual stating assessed **knowledge**

Cyber!

	Combat Element	Combat Support					
CYBER Roles	Server Administrator	Technical Support Specialist	Systems Developer	I & W Analyst	Administration	Logistic	Finance
	Systems Security Analyst	Systems Test & Eval Specialist	Software Engineer	CND Analyst			
	Network Operations Manager	Knowledge Manager	Systems Architect	Intel Analyst			
	CND Incident Responder	Data Administer	IA Compliance Agent	CND Forensic Analyst			
	Cyber Security/ IS Professional	System Requirements Plan	Net Infrastructure Spec	Endpoint Exploit Analyst			
	CND Manager	Technical Support Specialist	Systems Developer	Cryptographic Cyber Planner			
	Interactive Operator	CND Auditor	Test & Eval Engineer	BDA Analyst			
	Production Operator	Assessment Analyst	Partner Ops Planner	Forensic Analyst			
	Close Access Network Operator	Network Warfare Cyber Planner	R&D Engineer	Operational Target Dev Analyst			
		Legal Advisor/ SJA	Cyber Policy & Strategy Planner	Digital Network Exploit Analyst			
			Target Digital Network Analyst				
			Target Analyst Reporter				

Slides are available at: selil.com

source: DSA

Cyber: Why we can't have NICE things

Security Provision	Information Assurance Compliance	Software Engineering	Enterprise Architecture	Technology Demonstration	Systems Requirements Planning	Test and Evaluation	Systems Development
Operate & Maintain	Data Administration	Info System Security Mgt	Knowledge Mgt	Customer & Tech Support	Network Services	System Administration	Systems Security Analysis
Protect & Defend	Computer Network Defense (CND)	Incident Response	CND Infrastructure Support	Security Program Mgt	Vulnerability Assessment & Mgt		
Analyze	Cyber Threat Analysis	Exploitation Analysis	All-source Analysis	Targets			
Operate & Collect	Collection Operations	Cyber Operational Planning	Cyber Operations				
Oversight & Development	Legal Advice & Advocacy	Strategic Planning & Policy	Education & Training				
Investigate	Investigation	Digital Forensics					

Establishing National Standards

Job

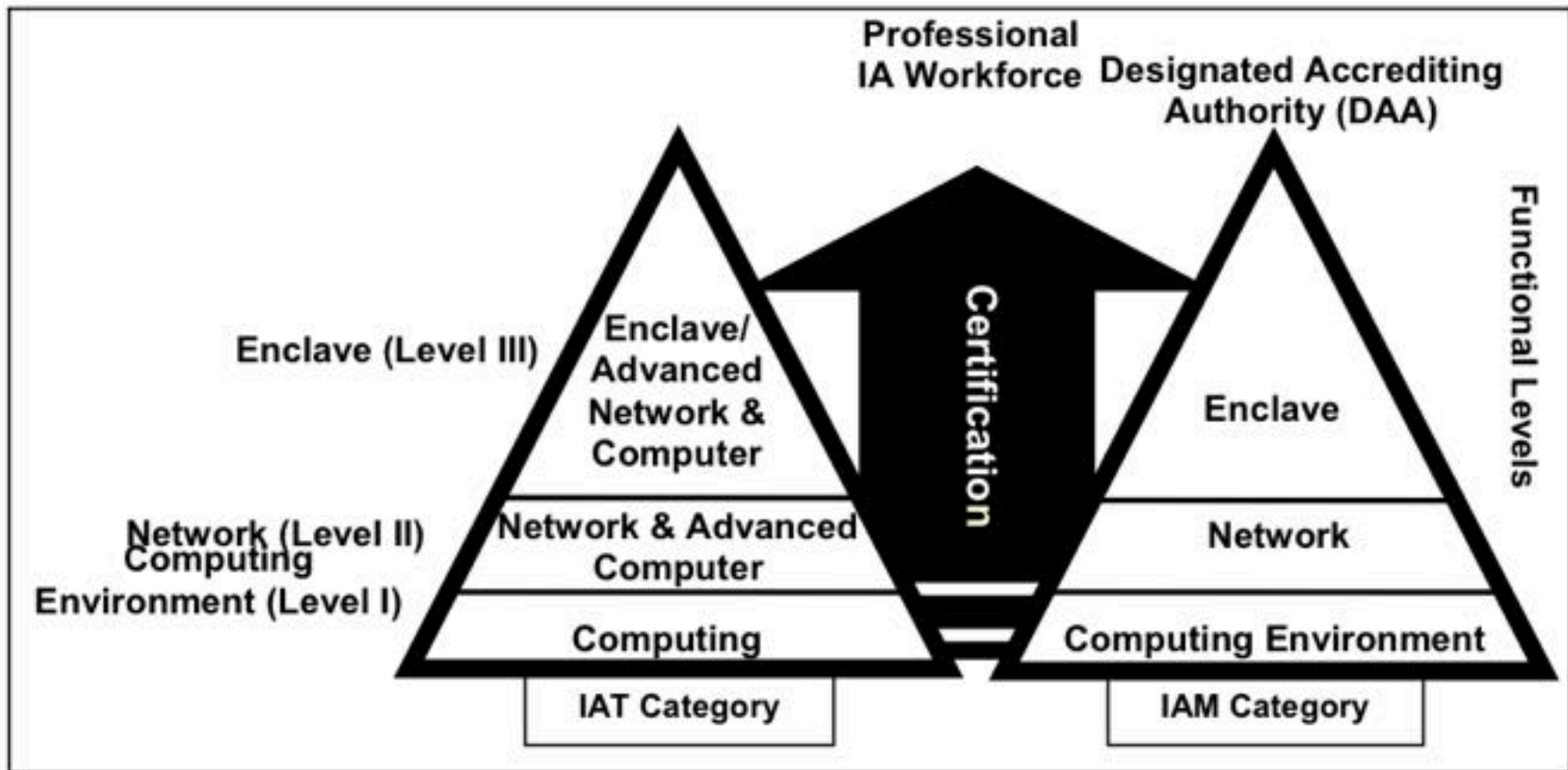
Task/Workrole

Knowledge, Skills, and Abilities (KSA)



8570 IA Workforce

Figure C2.F1. Overview of Basic IA Workforce Structure



Source: 8570 p. 19

Slides are available at: selil.com

Applying 8570 to Certs

IAT Level I		IAT Level II		IAT Level III	
A+ Network+ SSCP		GSEC Security+ SSCP		CASP CISA CISSP (or Associate) GCED GCIH	
IAM Level I		IAM Level II		IAM Level III	
CAP GSLC Security+		CAP CASP CISM CISSP (or Associate) GSLC		GSLC CISM CISSP (or Associate)	
CND Analyst	CND Infrastructure Support	CND Incident Responder	CND Auditor	CND-SP Manager	
CEH GCIA GCIH	CEH SSCP	CEH CSIH GCFA GCIH	CEH CISA GSNA	CISM CISSP-ISSMP	
IASAE I		IASAE II		IASAE III	
CASP CISSP (or Associate) CSSLP		CASP CISSP (or Associate) CSSLP		CISSP-ISSAP CISSP-ISSEP	

Source: ISC2

Slides are available at: selil.com

CISSP

- Sponsored by International Information Security Certification Consortium (ISC)²
- Based on 10 knowledge domains
- Available in associate for those without experience
- 3 Years experience required
- Signature and recommendation by 2 certified individuals
- Requires renewal and CPE's every three years

CISSP: Knowledge domains

1. Access control
2. Telecommunications and network security
3. Information security governance and risk management
4. Software development security
5. Cryptography
6. Security architecture and design
7. Security operations
8. Business continuity and disasters recovery planning
9. Legal, regulations, investigations, and compliance
10. Physical security

Pay: Aspirational

By Job By Years Experience By Employer Name By City By State or Province By Company Size More

Employees with a Certified Information Systems Security Professional (CISSP) Certification Salary Ranges by Job



Country: United States | Currency: USD | Updated: 23 Oct 2014 | Individuals Reporting: 3,917



© PayScale, Inc. @ www.payscale.com

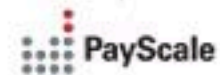
Source: Payscale.com (no expectations)

Pay: Reality

Employees with a Certified Information Systems Security Professional (CISSP) Certification Median Salary by Years Experience



Country: United States | Currency: USD | Updated: 23 Oct 2014 | Individuals Reporting: 3,917



© PayScale, Inc. @ www.payscale.com

Source: Payscale.com (no expectations)

US Government General Pay Rate

SALARY TABLE 2014-GS
 INCORPORATING THE 1% GENERAL SCHEDULE INCREASE
 EFFECTIVE JANUARY 2014

Annual Rates by Grade and Step

Grade	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	WITHIN GRADE AMOUNTS
1	\$ 17,981	\$ 18,582	\$ 19,180	\$ 19,775	\$ 20,373	\$ 20,724	\$ 21,315	\$ 21,911	\$ 21,934	\$ 22,494	VARIES
2	20,217	20,698	21,367	21,934	22,179	22,831	23,483	24,135	24,787	25,439	VARIES
3	22,058	22,793	23,528	24,263	24,998	25,733	26,468	27,203	27,938	28,673	735
4	24,763	25,588	26,413	27,238	28,063	28,888	29,713	30,538	31,363	32,188	825
5	27,705	28,629	29,553	30,477	31,401	32,325	33,249	34,173	35,097	36,021	924
6	30,883	31,912	32,941	33,970	34,999	36,028	37,057	38,086	39,115	40,144	1,029
7	34,319	35,463	36,607	37,751	38,895	40,039	41,183	42,327	43,471	44,615	1,144
8	38,007	39,274	40,541	41,808	43,075	44,342	45,609	46,876	48,143	49,410	1,267
9	41,979	43,378	44,777	46,176	47,575	48,974	50,373	51,772	53,171	54,570	1,399
10	46,229	47,770	49,311	50,852	52,393	53,934	55,475	57,016	58,557	60,098	1,541
11	50,790	52,483	54,176	55,869	57,562	59,255	60,948	62,641	64,334	66,027	1,693
12	60,877	62,906	64,935	66,964	68,993	71,022	73,051	75,080	77,109	79,138	2,029
13	72,391	74,804	77,217	79,630	82,043	84,456	86,869	89,282	91,695	94,108	2,413
14	85,544	88,395	91,246	94,097	96,948	99,799	102,650	105,501	108,352	111,203	2,851
15	100,624	103,978	107,332	110,686	114,040	117,394	120,748	124,102	127,456	130,810	3,354

Zero to Four years experience with a CISSP

Source: US OPM

Slides are available at: selil.com

GS Pay Analysis

**SALARY TABLE 2014-GS
INCORPORATING THE 1% GENERAL SCHEDULE INCREASE
EFFECTIVE JANUARY 2014**

Annual Rates by Grade and Step

Grade	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	WITHIN GRADE AMOUNTS
1	\$ 17,981	\$ 18,582	\$ 19,180	\$ 19,775	\$ 20,373	\$ 20,724	\$ 21,315	\$ 21,911	\$ 21,934	\$ 22,494	VARIES
2	20,217	20,698	21,367	21,934	22,179	22,831	23,485	24,135	24,787	25,439	VARIES
3	22,058	22,793	23,528	24,263	24,998	25,733	26,468	27,203	27,938	28,673	735
4	24,763	25,588	26,413	27,238	28,063	28,888	29,713	30,538	31,363	32,188	825
5	27,705	28,629	29,553	30,477	31,401	32,325	33,249	34,173	35,097	36,021	924
6	30,883	31,912	32,941	33,970	34,999	36,028	37,057	38,086	39,115	40,144	1,029
7	34,319	35,463	36,607	37,751	38,895	40,039	41,183	42,327	43,471	44,615	1,144
8	38,007	39,274	40,541	41,808	43,075	44,342	45,609	46,876	48,143	49,410	1,267
9	41,979	43,378	44,777	46,176	47,575	48,974	50,373	51,772	53,171	54,570	1,399
10	46,229	47,770	49,311	50,852	52,393	53,934	55,475	57,016	58,557	60,098	1,541
11	50,790	52,483	54,176	55,869	57,562	59,255	60,948	62,641	64,334	66,027	1,693
12	60,877	62,906	64,935	66,964	68,993	71,022	73,051	75,080	77,109	79,138	2,029
13	72,391	74,804	77,217	79,630	82,043	84,456	86,869	89,282	91,695	94,108	2,413
14	85,544	88,395	91,246	94,097	96,948	99,799	102,650	105,501	108,352	111,203	2,851
15	100,624	103,978	107,332	110,686	114,040	117,394	120,748	124,102	127,456	130,810	3,354

Slides are available at: selil.com

Experience trade for education

- Some jobs have no experience trade for education
- Bachelors degree in **appropriate** discipline gets you in the door and GS10/11
- A **masters** degree is one year of experience
- A **doctoral** degree is one year of experience
- Two classifications: Supervisors and Non-Supervisory
- GS13 and up is mostly supervisory (requires managing people for one year previously)
- GS 14/15 require 1 year each of supervisory time for at least 3 years.
- Veterans benefits do not necessarily apply above GS12 for rating but do for application (OPM)
- Non-supervisory GS13-15 are subject matter experts (SMEs) and fairly rare except in infosec

Certifications: Last call before...

- Certifications are rarely barriers to application
- Certifications are sorting mechanisms on who to interview
- Certifications are **YOU** paying for on the job training **THEY** don't have to pay for
- Certifications have a half life
- If a certification is required (DOD instruction) a personal performance plan should include continuing education

Questions?

Slides are available at: selil.com