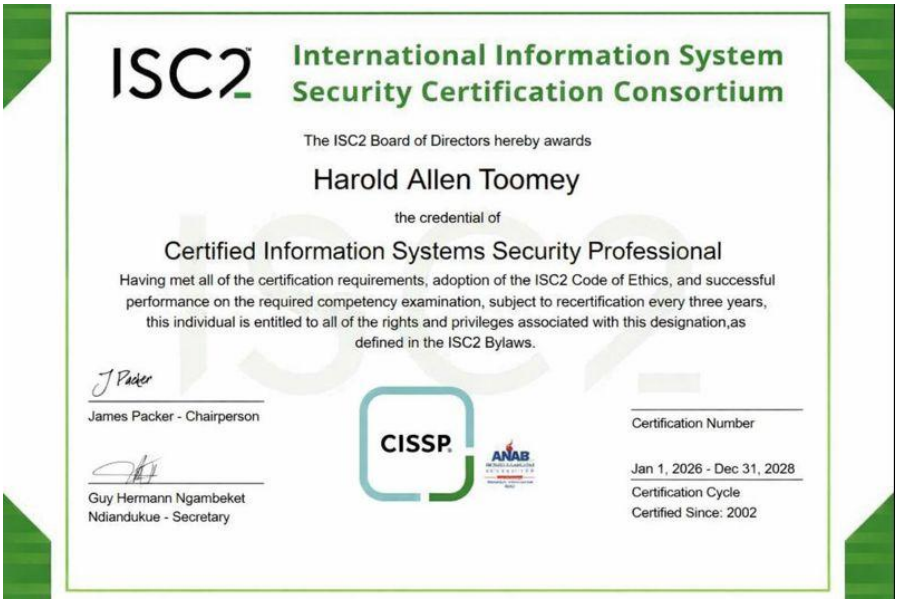
Harold's CISSP
Cheat Sheet
5 May 2026

Cybersecurity Certifications

Cert	Organization	Short Description
CISSP	ISC2	Broad, senior-level security credential covering governance, risk, architecture, operations, and security program leadership.
CISM	ISACA	Management-focused certification centered on information security governance, program development, and risk management leadership.
CEH	EC-Council	Ethical hacking overview covering common attack vectors, tools, and techniques used to assess security posture.
Security+	CompTIA	Entry-level, vendor-neutral baseline covering core security concepts, threats, risk management, and basic defensive practices.
CySA+	CompTIA	Defensive, analyst-focused credential emphasizing threat detection, monitoring, vulnerability management, and incident response.
PenTest+	CompTIA	Hands-on penetration testing fundamentals: planning/scoping, exploitation techniques, reporting, and remediation guidance.
CCSP	ISC2	Cloud security certification that is focused on cloud architecture, governance, risk, compliance, and security operations in cloud environments.
SSCP	ISC2	Practitioner-level systems security operations credential for implementing, monitoring, and administering security controls.
CISA	ISACA	Audit and assurance credential focusing on assessing controls, governance, and risk across information systems.
CRISC	ISACA	Risk-focused certification emphasizing enterprise IT risk identification, assessment, response, and control monitoring.


ISC2 International Information System Security Certification Consortium

The ISC2 Board of Directors hereby awards

Harold Allen Toomey

the credential of

Certified Information Systems Security Professional

Having met all of the certification requirements, adoption of the ISC2 Code of Ethics, and successful performance on the required competency examination, subject to recertification every three years, this individual is entitled to all of the rights and privileges associated with this designation,as defined in the ISC2 Bylaws.

James Packer - Chairperson

Guy Hermann Ngambeket Ndiandukue - Secretary

CISSP

ANAB

Certification Number

Jan 1, 2026 - Dec 31, 2028

Certification Cycle

Certified Since: 2002

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CISSP Overview

Aspect	Description
CISSP	Certified Information Systems Security Professional (CISSP) from ISC2
ISC2	International Information System Security Certification Consortium (ISC2) (Rebranded from $(ISC)^2$ in 2023)
Description	CISSP is a globally recognized, senior-level, vendor-neutral cybersecurity certification focused on designing, managing, and governing an organization's overall security program. It's often treated as a benchmark credential for security leadership and experienced practitioners.
Target Audience	Best suited to people in roles like: • Security engineer / security architect • Security manager / security lead • GRC (governance, risk, compliance) • IT director / CISO-track professionals It's not an entry-level cert—most candidates already have several years in IT/security.
8 Domains (CBK)	CISSP spans broad security knowledge across eight areas (CBKs): 1. Security & Risk Management 2. Asset Security 3. Security Architecture & Engineering 4. Communication & Network Security 5. Identity & Access Management (IAM) 6. Security Assessment & Testing 7. Security Operations 8. Software Development Security
Experience Requirement	• To become fully certified, you typically need **5 years of paid work experience** in **2 or more** CISSP domains. • Some education/certs can reduce this requirement by **1 year**. • If you pass the exam without the required experience, you can become an **Associate of $(ISC)^2$** until you meet it.

The Exam	• Cost: $599
	• Retakes:
	  ○ After 1st failed attempt: wait 30 days
	  ○ After 2nd failed attempt: wait 60 days
	  ○ After 3rd + failed attempts: wait 90 days
	• Computerized exam (English uses adaptive testing)
	• Mix of multiple-choice and advanced question formats
	• Tests both concepts and real-world judgment: risk tradeoffs, governance decisions, architecture thinking, etc.

Credibility	• The #1 most recognized cybersecurity certification • Signals broad security competency across the enterprise

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CISSP Study Tools

Tool	Cost	Strengths
Boson ExSim-Max for CISSP	$99 (1 year)	Provides a full practice-exam simulator (multiple full-length exams). Provides detailed explanations, scoring, and reporting.
Quantum Exams	Free samples $139.99 (1 year) $199.99 (1 year) w/CAT	Offers a Computer Adaptive Test (CAT) with a 3-hour time limit and variable-length exam (100–150 questions). Gives detailed explanations.
Crucial Exams	Free demo $19.99 (1 month) $44.99 (3 months) $119.99 (1 year) $189.99 (lifetime pass)	Can generate timed, custom exams to simulate the real test. Study Mode provides detailed explanations. Runs on the website with a “practice test” flow and timer settings.
ISC2 Official App by LearnZapp	$4.99 (1 week) $16.99 (1 month) $44.99 (3 months) $79.99 (6 months) $139.99 (1 year)	Designed for smartphones. Includes thousands of practice questions with detailed explanations.
Pocket Prep	Free to try $20.99 (1 month) $49.99 (3 months) $124.99 (12 months)	Designed for smartphones. Provides detailed explanations.
Sybex/Wiley Official Study Guide (10th Ed.)	$56.00 (eBook) $70.00 (print)	Best core textbook. Updated for the 2024 CISSP exam. Includes 900+ practice questions with complete answer explanations.
ISC2 CISSP Official Practice Tests (Sybex), 4th Edition	$34.00 (eBook) $42.00 (print)	Best companion book (practice questions in book form). Official practice-test book aligned to the 2024 CISSP domains. Includes access to Sybex’s online test environment.
The Official ISC2 CISSP CBK Reference, 6th Edition	$76.00 (eBook) $95.00 (print)	Best “official reference” (deep lookup, not the easiest first read). ISC2’s comprehensive CBK reference (authoritative, but more “reference manual” than exam-prep narrative).

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CISSP Common Body of Knowledge (CBK)

1. Security & Risk Management

Topic	Diagrams and Lists

2. Asset Security

Topic	Diagrams and Lists

3. Security Architecture & Engineering

Topic	Diagrams and Lists

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4. Communication & Network Security

Topic	Diagrams and Lists
OSI Model	ISO Open Source Interconnection 7-layer model
ASCII	American Standard Code for Information Interchange (ASCII)
Extended ASCII	ASCII extended by 128 characters for non-English languages
Unicode	Multi-byte character codes used internationally. Take more computer storage but offer unique characters for all of the world's languages + emojis.

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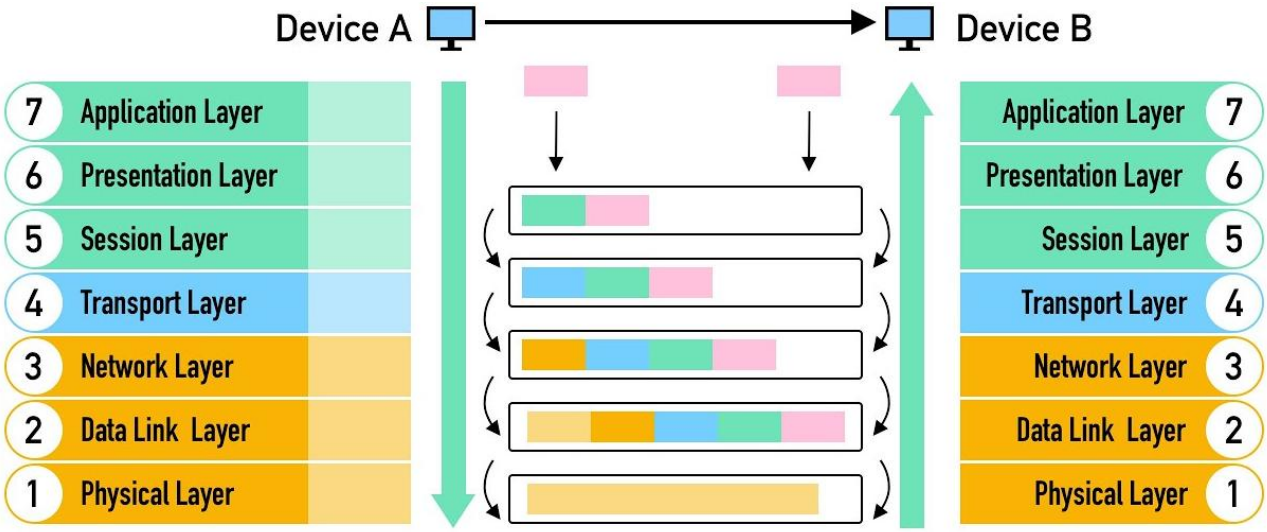
ISO OSI Model



OSI (Open Source Interconnection) 7 Layer Model

Layer	Application/Example		Central Device/ Protocols		DOD4 Model
Application (7) Serves as the window for users and application processes to access the network services.	**End User layer** Program that opens what was sent or creates what is to be sent Resource sharing • Remote file access • Remote printer access • Directory services • Network management		**User Applications** SMTP	GATEWAY Can be used on all layers	Process
Presentation (6) Formats the data to be presented to the Application layer. It can be viewed as the "Translator" for the network.	**Syntax layer** encrypt & decrypt (if needed) Character code translation • Data conversion • Data compression • Data encryption • **Character Set Translation**		JPEG/ASCII EBDIC/TIFF/GIF PICT		
Session (5) Allows session establishment between processes running on different stations.	**Synch & send to ports** (logical ports) Session establishment, maintenance and termination • Session support - perform security, name recognition, logging, etc.		**Logical Ports** RPC/SQL/NFS NetBIOS names		
Transport (4) Ensures that messages are delivered error-free, in sequence, and with no losses or duplications.	**TCP** Host to Host, Flow Control Message segmentation • Message acknowledgement • Message traffic control • Session multiplexing	PACKET FILTERING	TCP/SPX/UDP		Host to Host
Network (3) Controls the operations of the subnet, deciding which physical path the data takes.	**Packets** ("letter", contains IP address) Routing • Subnet traffic control • Frame fragmentation • Logical-physical address mapping • Subnet usage accounting		**Routers** IP/IPX/ICMP		Internet
Data Link (2) Provides error-free transfer of data frames from one node to another over the Physical layer.	**Frames** ("envelopes", contains MAC address) [NIC card — Switch — NIC card] (end to end) Establishes & terminates the logical link between nodes • Frame traffic control • Frame sequencing • Frame acknowledgment • Frame delimiting • Frame error checking • Media access control		**Switch Bridge WAP** PPP/SLIP	Land Based Layers	Network
Physical (1) Concerned with the transmission and reception of the unstructured raw bit stream over the physical medium.	**Physical structure** Cables, hubs, etc. Data Encoding • Physical medium attachment • Transmission technique - Baseband or Broadband • Physical medium transmission Bits & Volts		**Hub**		

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ASCII Table

Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char
0	00	Null	32	20	Space	64	40	@	96	60	`
1	01	Start of heading	33	21	!	65	41	A	97	61	a
2	02	Start of text	34	22	"	66	42	B	98	62	b
3	03	End of text	35	23	#	67	43	C	99	63	c
4	04	End of transmit	36	24	$	68	44	D	100	64	d
5	05	Enquiry	37	25	%	69	45	E	101	65	e
6	06	Acknowledge	38	26	&	70	46	F	102	66	f
7	07	Audible bell	39	27	'	71	47	G	103	67	g
8	08	Backspace	40	28	(	72	48	H	104	68	h
9	09	Horizontal tab	41	29	)	73	49	I	105	69	i
10	0A	Line feed	42	2A	*	74	4A	J	106	6A	j
11	0B	Vertical tab	43	2B	+	75	4B	K	107	6B	k
12	0C	Form feed	44	2C	,	76	4C	L	108	6C	l
13	0D	Carriage return	45	2D	-	77	4D	M	109	6D	m
14	0E	Shift out	46	2E	.	78	4E	N	110	6E	n
15	0F	Shift in	47	2F	/	79	4F	O	111	6F	o
16	10	Data link escape	48	30	0	80	50	P	112	70	p
17	11	Device control 1	49	31	1	81	51	Q	113	71	q
18	12	Device control 2	50	32	2	82	52	R	114	72	r
19	13	Device control 3	51	33	3	83	53	S	115	73	s
20	14	Device control 4	52	34	4	84	54	T	116	74	t
21	15	Neg. acknowledge	53	35	5	85	55	U	117	75	u
22	16	Synchronous idle	54	36	6	86	56	V	118	76	v
23	17	End trans. block	55	37	7	87	57	W	119	77	w
24	18	Cancel	56	38	8	88	58	X	120	78	x
25	19	End of medium	57	39	9	89	59	Y	121	79	y
26	1A	Substitution	58	3A	:	90	5A	Z	122	7A	z
27	1B	Escape	59	3B	;	91	5B	[	123	7B	{
28	1C	File separator	60	3C	<	92	5C	\	124	7C	|
29	1D	Group separator	61	3D	=	93	5D	]	125	7D	}
30	1E	Record separator	62	3E	>	94	5E	^	126	7E	~
31	1F	Unit separator	63	3F	?	95	5F	_	127	7F	□

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Extended ASCII Table

Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char	Dec	Hex	Char
128	80	Ç	160	A0	á	192	C0	└	224	E0	α
129	81	ü	161	A1	í	193	C1	┴	225	E1	ß
130	82	é	162	A2	ó	194	C2	┬	226	E2	Γ
131	83	â	163	A3	ú	195	C3	├	227	E3	π
132	84	ä	164	A4	ñ	196	C4	─	228	E4	Σ
133	85	à	165	A5	Ñ	197	C5	┼	229	E5	σ
134	86	å	166	A6	ª	198	C6	╞	230	E6	µ
135	87	ç	167	A7	º	199	C7	╟	231	E7	τ
136	88	ê	168	A8	¿	200	C8	╚	232	E8	Φ
137	89	ë	169	A9	⌐	201	C9	╔	233	E9	Θ
138	8A	è	170	AA	¬	202	CA	╩	234	EA	Ω
139	8B	ï	171	AB	½	203	CB	╦	235	EB	δ
140	8C	î	172	AC	¼	204	CC	╠	236	EC	∞
141	8D	ì	173	AD	¡	205	CD	═	237	ED	ø
142	8E	Ä	174	AE	«	206	CE	╬	238	EE	ε
143	8F	Å	175	AF	»	207	CF	╧	239	EF	∩
144	90	É	176	B0	░	208	D0	╨	240	F0	≡
145	91	æ	177	B1	▒	209	D1	╤	241	F1	±
146	92	Æ	178	B2	▓	210	D2	╥	242	F2	≥
147	93	ô	179	B3	│	211	D3	╙	243	F3	≤
148	94	ö	180	B4	┤	212	D4	╘	244	F4	⌠
149	95	ò	181	B5	╡	213	D5	╒	245	F5	⌡
150	96	û	182	B6	╢	214	D6	╓	246	F6	÷
151	97	ù	183	B7	╖	215	D7	╫	247	F7	≈
152	98	ÿ	184	B8	╕	216	D8	╪	248	F8	°
153	99	Ö	185	B9	╣	217	D9	┘	249	F9	∙
154	9A	Ü	186	BA	║	218	DA	┌	250	FA	·
155	9B	¢	187	BB	╗	219	DB	█	251	FB	√
156	9C	£	188	BC	╝	220	DC	▄	252	FC	ⁿ
157	9D	¥	189	BD	╜	221	DD	▌	253	FD	²
158	9E	₧	190	BE	╛	222	DE	▐	254	FE	■
159	9F	ƒ	191	BF	┐	223	DF	▀	255	FF	

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Intel x86 CPU Opcodes

ADD Eb Gb *00*	**ADD** Ev Gv *01*	**ADD** Gb Eb *02*	**ADD** Gv Ev *03*	**ADD** AL Ib *04*	**ADD** eAX Iv *05*	**PUSH** ES *06*	**POP** ES *07*	**OR** Eb Gb *08*	**OR** Ev Gv *09*	**OR** Gb Eb *0A*	**OR** Gv Ev *0B*	**OR** AL Ib *0C*	**OR** eAX Iv *0D*	**PUSH** CS *0E*	**TWOBYTE** *0F*
ADC Eb Gb *10*	**ADC** Ev Gv *11*	**ADC** Gb Eb *12*	**ADC** Gv Ev *13*	**ADC** AL Ib *14*	**ADC** eAX Iv *15*	**PUSH** SS *16*	**POP** SS *17*	**SBB** Eb Gb *18*	**SBB** Ev Gv *19*	**SBB** Gb Eb *1A*	**SBB** Gv Ev *1B*	**SBB** AL Ib *1C*	**SBB** eAX Iv *1D*	**PUSH** DS *1E*	**POP** DS *1F*
AND Eb Gb *20*	**AND** Ev Gv *21*	**AND** Gb Eb *22*	**AND** Gv Ev *23*	**AND** AL Ib *24*	**AND** eAX Iv *25*	**ES:** *26*	**DAA** *27*	**SUB** Eb Gb *28*	**SUB** Ev Gv *29*	**SUB** Gb Eb *2A*	**SUB** Gv Ev *2B*	**SUB** AL Ib *2C*	**SUB** eAX Iv *2D*	**CS:** *2E*	**DAS** *2F*
XOR Eb Gb *30*	**XOR** Ev Gv *31*	**XOR** Gb Eb *32*	**XOR** Gv Ev *33*	**XOR** AL Ib *34*	**XOR** eAX Iv *35*	**SS:** *36*	**AAA** *37*	**CMP** Eb Gb *38*	**CMP** Ev Gv *39*	**CMP** Gb Eb *3A*	**CMP** Gv Ev *3B*	**CMP** AL Ib *3C*	**CMP** eAX Iv *3D*	**DS:** *3E*	**AAS** *3F*
INC eAX *40*	**INC** eCX *41*	**INC** eDX *42*	**INC** eBX *43*	**INC** eSP *44*	**INC** eBP *45*	**INC** eSI *46*	**INC** eDI *47*	**DEC** eAX *48*	**DEC** eCX *49*	**DEC** eDX *4A*	**DEC** eBX *4B*	**DEC** eSP *4C*	**DEC** eBP *4D*	**DEC** eSI *4E*	**DEC** eDI *4F*
PUSH eAX *50*	**PUSH** eCX *51*	**PUSH** eDX *52*	**PUSH** eBX *53*	**PUSH** eSP *54*	**PUSH** eBP *55*	**PUSH** eSI *56*	**PUSH** eDI *57*	**POP** eAX *58*	**POP** eCX *59*	**POP** eDX *5A*	**POP** eBX *5B*	**POP** eSP *5C*	**POP** eBP *5D*	**POP** eSI *5E*	**POP** eDI *5F*
PUSHA *60*	**POPA** *61*	**BOUND** Gv Ma *62*	**ARPL** Ew Gw *63*	**FS:** *64*	**GS:** *65*	**OPSIZE:** *66*	**ADSIZE:** *67*	**PUSH** Iv *68*	**IMUL** Gv Ev Iv *69*	**PUSH** Ib *6A*	**IMUL** Gv Ev Ib *6B*	**INSB** Yb DX *6C*	**INSW** Yz DX *6D*	**OUTSB** DX Xb *6E*	**OUTSW** DX Xv *6F*
JO Jb *70*	**JNO** Jb *71*	**JB** Jb *72*	**JNB** Jb *73*	**JZ** Jb *74*	**JNZ** Jb *75*	**JBE** Jb *76*	**JA** Jb *77*	**JS** Jb *78*	**JNS** Jb *79*	**JP** Jb *7A*	**JNP** Jb *7B*	**JL** Jb *7C*	**JNL** Jb *7D*	**JLE** Jb *7E*	**JNLE** Jb *7F*
ADD Eb Ib *80*	**ADD** Ev Iv *81*	**SUB** Eb Ib *82*	**SUB** Ev Ib *83*	**TEST** Eb Gb *84*	**TEST** Ev Gv *85*	**XCHG** Eb Gb *86*	**XCHG** Ev Gv *87*	**MOV** Eb Gb *88*	**MOV** Ev Gv *89*	**MOV** Gb Eb *8A*	**MOV** Gv Ev *8B*	**MOV** Ew Sw *8C*	**LEA** Gv M *8D*	**MOV** Sw Ew *8E*	**POP** Ev *8F*
NOP *90*	**XCHG** eAX eCX *91*	**XCHG** eAX eDX *92*	**XCHG** eAX eBX *93*	**XCHG** eAX eSP *94*	**XCHG** eAX eBP *95*	**XCHG** eAX eSI *96*	**XCHG** eAX eDI *97*	**CBW** *98*	**CWD** *99*	**CALL** Ap *9A*	**WAIT** *9B*	**PUSHF** Fv *9C*	**POPF** Fv *9D*	**SAHF** *9E*	**LAHF** *9F*

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5. Identity & Access Management (IAM)

Topic	Diagrams and Lists

6. Security Assessment & Testing

Topic	Diagrams and Lists

7. Security Operations

Topic	Diagrams and Lists

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8. Software Development Security

Topic	Diagrams and Lists

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TBD

Topic	Diagrams and Lists

Sources

- <Author> (year). <Title>. <Link>

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Certs	Description

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