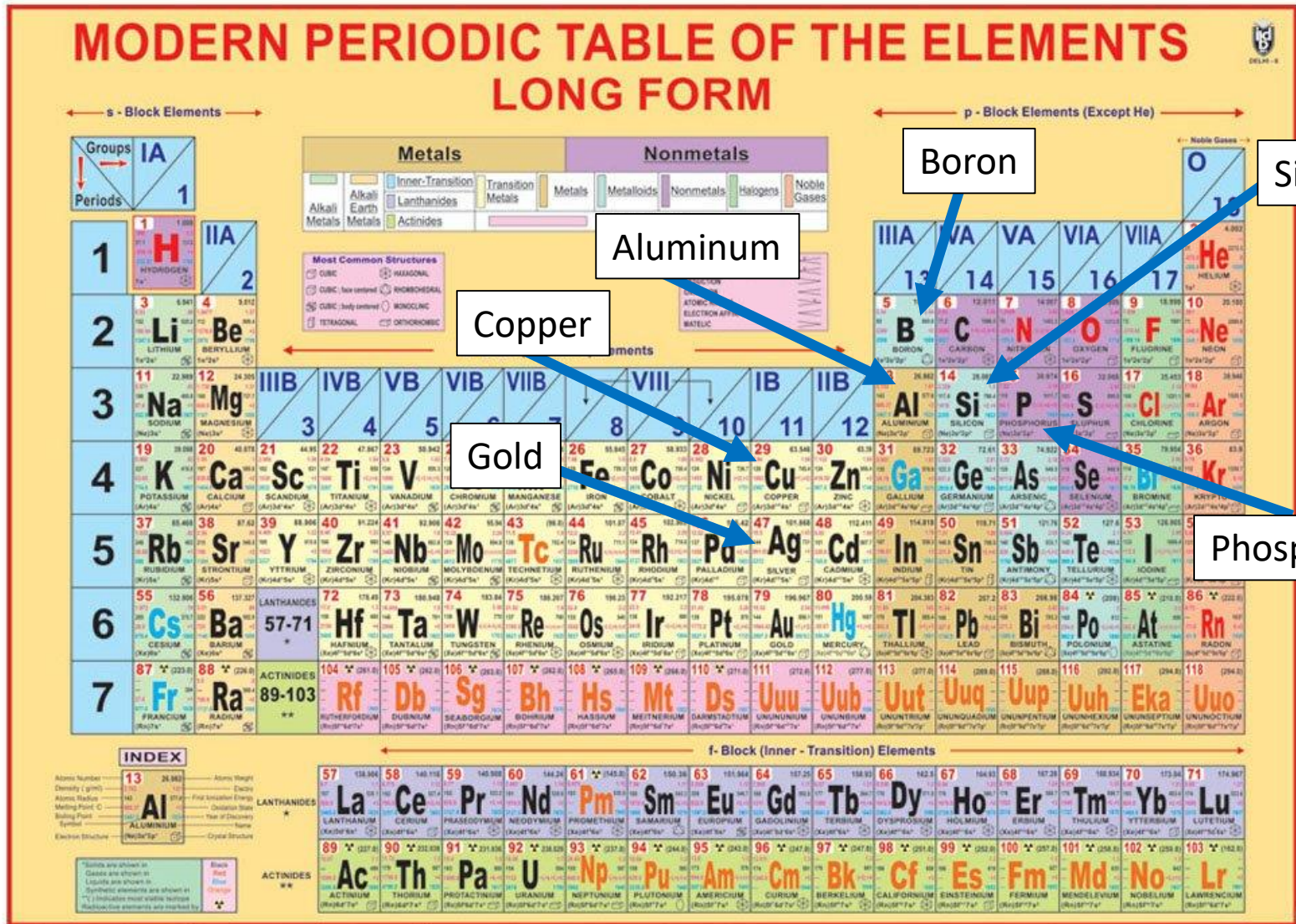


# Silicon

Last updated 2/9/19

# Silicon



Src: IBD Charts

# Silicon

- Silicon

Atomic Number	14	28.086	Atomic Weight
	Si		
Resistivity ( $\Omega$ -cm)	$60 \times 10^3$	1410	Melting Point ( $^{\circ}$ C)
Band Gap (eV)	1.12	5.4307	Lattice Constant (Angstroms)
Electron Configuration	[Ne]3s <sup>2</sup> 3p <sup>2</sup>	Diamond	Crystal Structure
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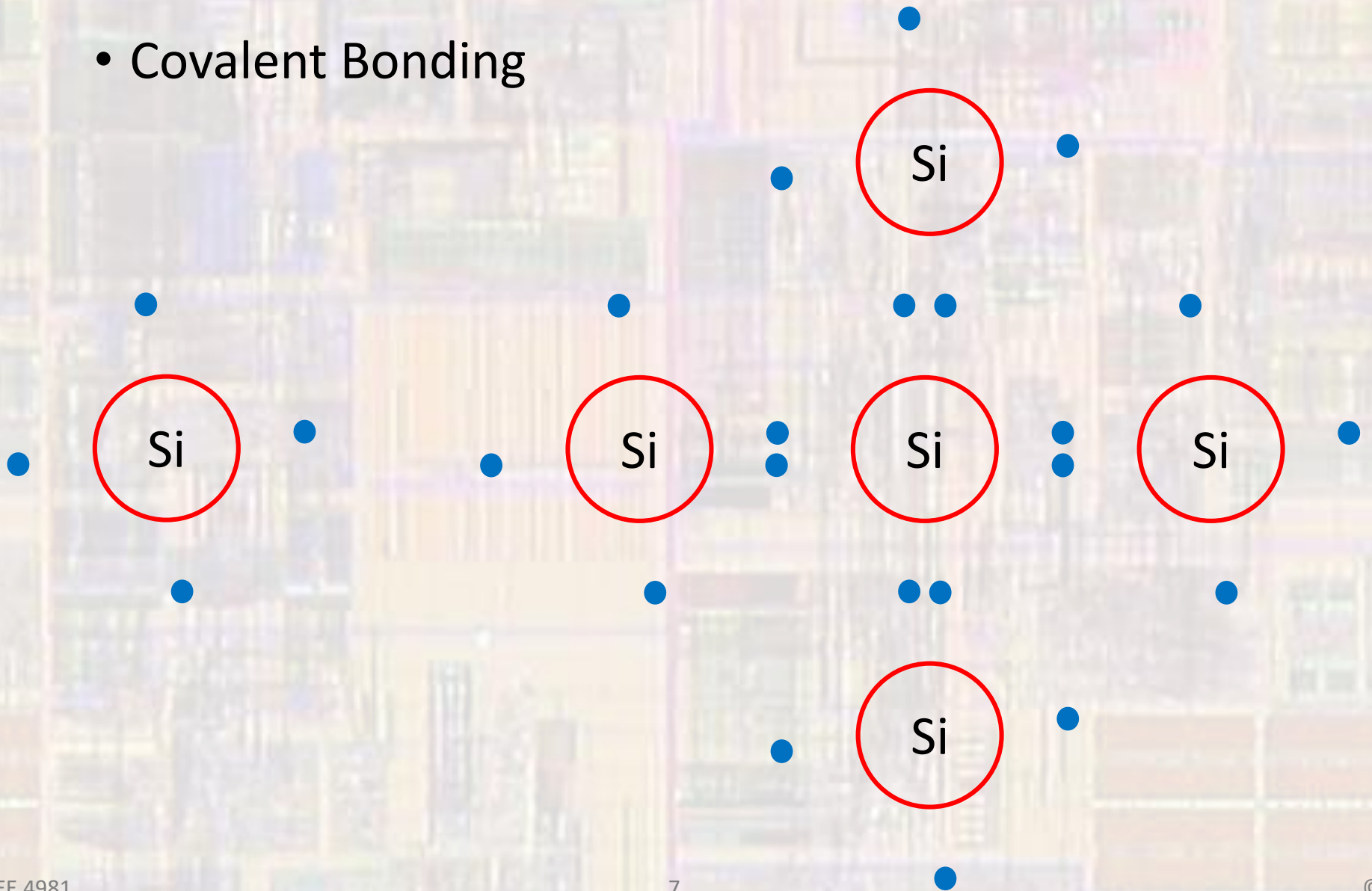
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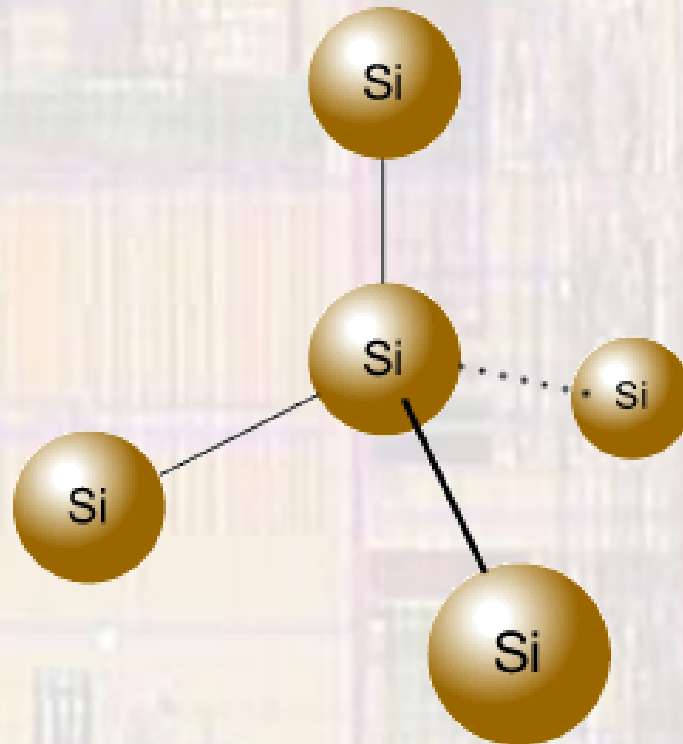
# Silicon

- Covalent Bonding



# Silicon

- Covalent Bonding

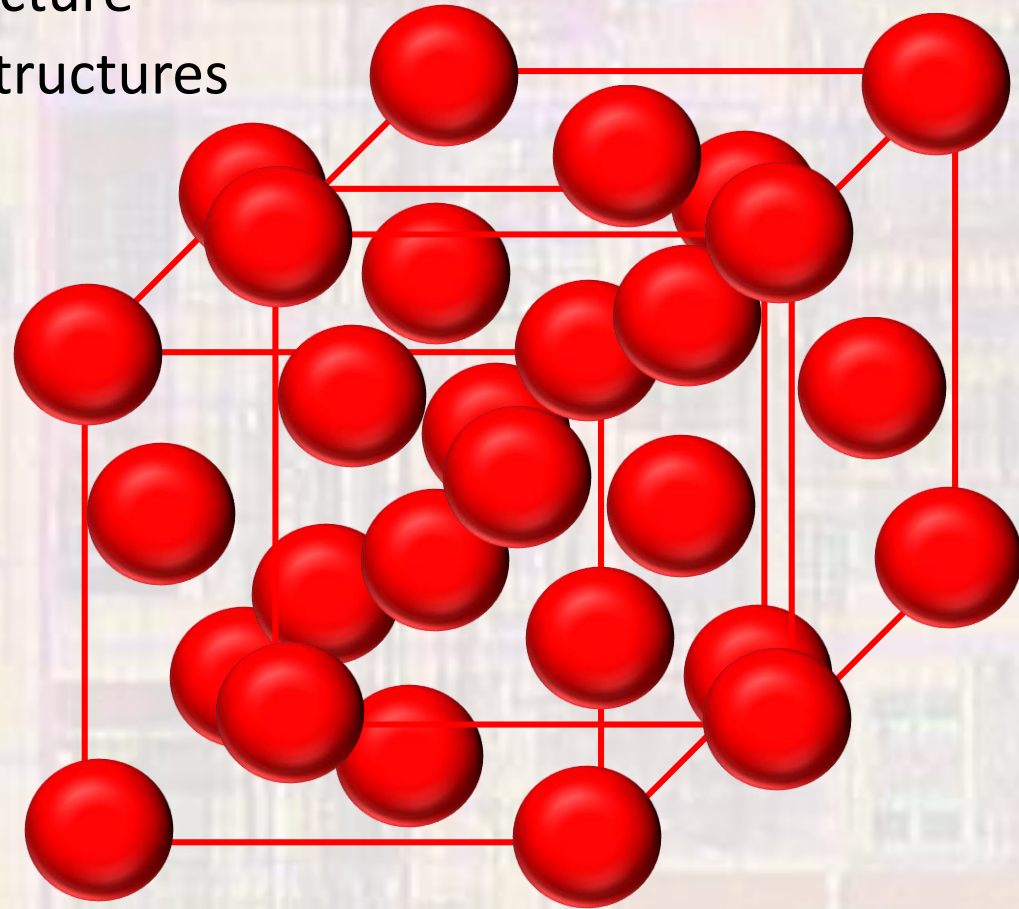
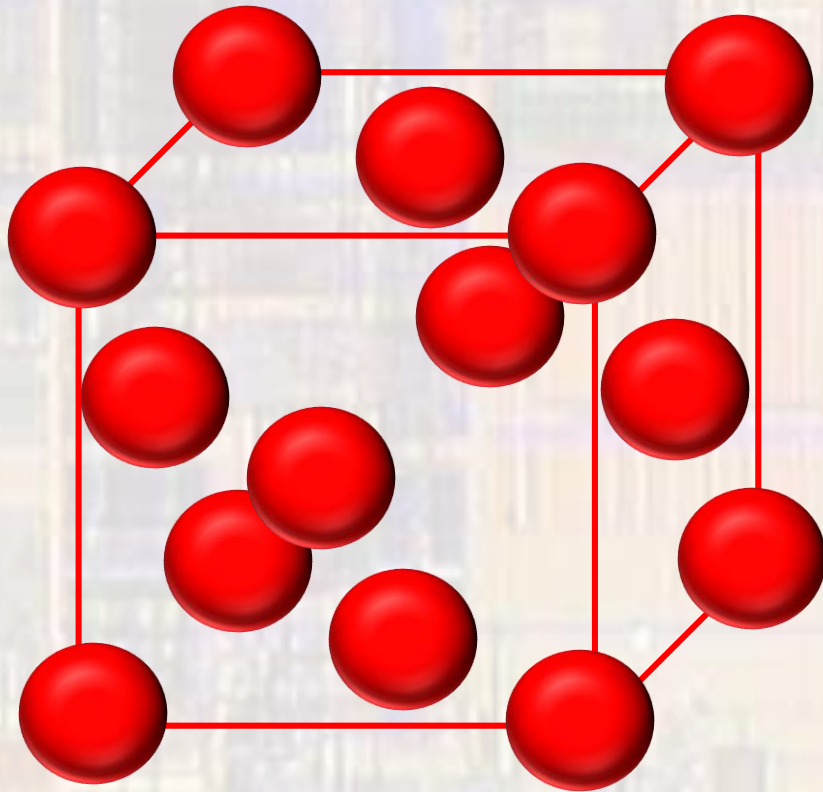


Src: [www.ibchem.com](http://www.ibchem.com)



# Silicon

- Face centered cubic structure
- 2 interpenetrating FCC structures



# Silicon

- Silicon atom density

$$5 \times 10^{22} \text{ atoms/cm}^3$$

# Silicon

- Silicon Bandgap

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	<b>Si</b>		
Resistivity ( $\Omega$ -cm)	$60 \times 10^3$	1410	Melting Point ( $^{\circ}$ C)
Band Gap (eV)	1.12	5.4307	Lattice Constant (Angstroms)
Electron Configuration	[Ne]3s <sup>2</sup> 3p <sup>2</sup>	Diamond	Crystal Structure
	Silicon		