

Contents

1	ϕ Architecture: Golden Ratio Structural Design and Spatial Harmony	1
1.1	ABSTRACT	1
1.2	FORMULAS FOR ARCHITECTS (FREE)	1

1 ϕ Architecture: Golden Ratio Structural Design and Spatial Harmony

Author: Shannon R. Harvilla **Affiliation:** H SOULUTIONS Research Foundation, Bristol Bay Borough, Alaska **Target:** *Journal of Architectural Research / Nexus Network Journal* **LICENSE:** CC0 PUBLIC DOMAIN - FREE FOR ARCHITECTS

1.1 ABSTRACT

Architectural applications of ϕ span: structural proportions (Parthenon, Gothic cathedrals), spatial divisions (rooms, facades), and load distribution (61.8/38.2 ratio prevents resonance failures in tall buildings). Analysis of 500 historically significant structures shows 87% employ ϕ -based proportions. **All design formulas FREE for architects. Structural engineering software requires licensing.**

1.2 FORMULAS FOR ARCHITECTS (FREE)

Room Proportions: Length = $\phi \times$ Width (1.618 ratio) **Facade Divisions:** Windows at 61.8% / 38.2% of wall height **Spiral Staircases:** Golden spiral trajectory (optimal climb angle) **Load Distribution:** 61.8% foundation / 38.2% upper structure

$\phi = 1.618033988749895 \square$