

Integral Equations in Visual Computing  
Summer term 2008  
Dr. Bernhard Burgeth

Saarland University  
Faculty of Mathematics  
and Computer Science

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**Assignment C6**  
(classroom assignment)

**Problem:** Solve numerically the integral equation

$$u(x) = 1 + \frac{4}{3}x + \int_{-1}^1 (xt^2 - x)u(t) dt$$

with the help of the collocation method.

*Hint:* Use three equally spaced nodes and suitable Legendre polynomials  $P_n(x)$ .