



جامعة الشارقة للتكنولوجيا  
SHARJAH INSTITUTE OF TECHNOLOGY

# Integration IV - Tutoring Sheet #18

Evaluate the following integrals:

$$\text{a. } \int x^3(x^2+1)^{3/2} dx$$

b.  $\int x^3 e^x \, dx$

c.  $\int (x+2)^2 \ln x dx$

d.  $\int \frac{dx}{1+e^x}$

$$\text{e. } \int \frac{\ln x dx}{x((\ln x)^2 + 1)}$$

$$\int \frac{x}{(x+1)^3} dx$$

$$\text{g. } \int \sin^3 x \cos^5 x dx$$

$$\text{h. } \int \frac{dx}{\sqrt{x}(x - 5\sqrt{x} + 6)}$$

$$\text{i.) } \int \frac{dx}{\sqrt{\tan x} \cos^2 x}$$

$$f.) \int \frac{\sqrt{1 + \sqrt{e^{-x}}}}{\sqrt{e^x}} dx$$