



CONFERENCIA
CLASE

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APLICACIONES DE LAS
ECUACIONES
DIFERENCIALES

Viernes 17 de Octubre, 2025	13:00 - 15:00 horas	Auditorio Sotero Prieto
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¡ NO FALTES !

En esta primera clase en línea vamos a resolver problemas de ecuaciones diferenciales lineales con condiciones iniciales utilizand exclusivamente el Método de Transformada de Laplace en la plataforma Maple.

Si surgen dudas, me pueden interrumpir levantando la mano virtual para suspender y responderlas.

Resolver las siguientes ecuaciones:

$$951. x' + 3x = e^{-2t}, \quad x(0) = 0.$$

$$952. x' - 3x = 3t^2 + 3t^2 + 2t + 1, \quad x(0) = -1,$$

$$953. x' - x = \cos t - \sin t, \quad x(0) = 0.$$

$$954. x' + x = 2 \sin t, \quad x(0) = 0.$$

$$955. 2x' + 6x = te^{-3t}, \quad x(0) = -\frac{1}{2}.$$

$$956. x'' + 4x' + 3x = 1, \quad x(0) = 3, \quad x'(0) = -2.$$

$$957. x'' - 2x' + 2x = 1, \quad x(0) = \frac{1}{2}, \quad x'(0) = 0.$$

$$958. x'' - 5x' + 6x = 12, \quad x(0) = 2, \quad x'(0) = 0.$$

$$959. x'' + 3x' - 1 = 0, \quad x(0) = 0, \quad x'(0) = \frac{1}{3}.$$

$$960. x'' - 2x' + 1 = 0, \quad x(0) = x'(0) = \frac{1}{2}.$$

$$961. x'' + 3x' + 2x = 2t^2 + 1, \quad x(0) = 4, \quad x'(0) = -3.$$

$$962. x'' - 2x' - 3x = 3 + 7t + 3t^2, \quad x(0) = x'(0) = -1.$$

$$963. x'' - 7x' = -(14t + 5), \quad x(0) = 2, \quad x'(0) = 8.$$

$$964. x'' + 2x' = 6t^2, \quad x(0) = 0, \quad x'(0) = \frac{3}{2}.$$

$$965. x'' + 6x' = t, \quad x(0) = 0, \quad x'(0) = -\frac{1}{36}.$$

$$966. x'' + x = 2e^t, \quad x(0) = 1, \quad x'(0) = 2.$$

$$967. 7x'' + 14x' = \left(t - \frac{1}{4}\right)e^{-2t}, \quad x(0) = 2, \quad x'(0) = -\frac{1}{56}.$$

$$968. x'' - 4x' + 4x = (t - 1)e^{2t}, \quad x(0) = 0, \quad x'(0) = 1.$$

$$969. 4x'' - 4x' + x = e^{\frac{t}{2}}, \quad x(0) = -2, \quad x'(0) = 0.$$

$$970. x'' + 3x' + 2x = e^{-t} + e^{-2t}, \quad x(0) = 2, \quad x'(0) = -3.$$

$$971. x'' - x' - 6x = 6e^{3t} + 2e^{-2t}, \quad x(0) = 0, \quad x'(0) = \frac{4}{5}.$$

$$972. x'' + 4x' + 4x = t^2 e^{-2t}, \quad x(0) = x'(0) = 0.$$

$$973. x'' - x' = 2 \sin t, \quad x(0) = 2, \quad x'(0) = 0.$$

$$974. x'' + 9x = 18 \cos 3t, \quad x(0) = 0, \quad x'(0) = 9.$$

$$975. x'' + 4x = 4 \cos 2t - \frac{1}{2} \sin 2t, \quad x(0) = 0, \quad x'(0) = \frac{1}{8}.$$

$$976. x'' + 2x' + 3x = t \cos t, \quad x(0) = -\frac{1}{4}, \quad x'(0) = 0.$$

$$977. x'' - 2x' + 10x = \cos 3t, \quad x(0) = 1, \quad x'(0) = \frac{18}{37}.$$

$$978. x'' - 4x' + 5x = 2e^{2t} (\sin t + \cos t), \quad x(0) = 1, \\ x'(0) = 2.$$

$$979. x''' - x'' = 0, \quad x(0) = 1, \quad x'(0) = 3, \quad x''(0) = 2.$$

$$980. x''' - 4x' = 1, \quad x(0) = 0, \quad x'(0) = -\frac{1}{6}, \quad x''(0) = 0.$$

$$981. x''' + x'' - 2x = 5e^t, \quad x(0) = 0, \quad x'(0) = 1, \\ x''(0) = 2.$$

$$982. x'' + x = 8\sqrt{2} \sin\left(t + \frac{\pi}{4}\right), \quad x(0) = 0, \quad x'(0) = -4.$$

$$983. x'' + 4x = 2 \cos^2 t, \quad x(0) = 0, \quad x'(0) = 0.$$

$$984. x'' + x' = 1, \quad x(0) = 0, \quad x'(0) = 1.$$

