OPĆA FIZIKA NUTRICIONIZAM

POPIS FORMULA I KONSTANTI

Kinematika

$$v = \frac{\Delta s}{\Delta t}$$

$$a = \frac{\Delta v}{\Delta t}$$

$$s = v_0 t + a\frac{t^2}{2}$$

$$v = v_0 + at$$

$$v^2 = v_0^2 + 2as$$

Dinamika

$$\sum F = ma$$

$$F_{tr} = \mu\, F_{pritiska}$$

$$I = F\Delta t = m\Delta v$$

$$p = m\, v$$

$$W = \Delta E$$

$$W = Fs\, cos\alpha$$

$$E_k = \frac{mv^2}{2}$$

$$E_{gp} = mgh$$

$$P = \frac{W}{t} = F \cdot v$$

$$F_G = G\frac{m_1 m_2}{r^2}$$

Kružno gibanje

$$f = \frac{1}{T}$$

$$T = \frac{t}{n}$$

$$\omega = \frac{2\pi}{T}$$

$$a_{cp} = \frac{v^2}{r}$$

$$v = \omega\, r$$

$$v = \frac{2r\pi}{T}$$

Hidromehanika

$$p = \frac{F}{A}$$

$$p = p_0 + \rho g h$$

$$F_u = \rho_{tek}\, g\, V_{ur}$$

Konstante

$$G = 6.67 \cdot 10^{-11} N\, kg^{-2} m^2$$

$$g = 9.81\, m\, s^{-2}$$

$$M_{Zemlje} = 6 \cdot 10^{24}\, kg$$

$$R_{Zemlje} = 6370\, km$$

Titranje

$$y = A\sin(\omega t + \varphi)$$

$$T = \frac{2\pi}{\omega}$$

$$f = \frac{\omega}{2\pi}$$

$$T = 2\pi\sqrt{\frac{m}{k}}$$

$$T = 2\pi\sqrt{\frac{l}{g}}$$

Valovi

$$y = y_0 \sin\left(\frac{2\pi}{T}t \pm \frac{2\pi}{\lambda}x\right)$$

$$v = \lambda \cdot f$$

Termodinamika

$$l = l_0(1 + \alpha \cdot \Delta T)$$

$$V = V_0(1 + \beta \cdot \Delta T)\ ,\ \ \beta \approx 3\alpha$$

$$pV = nRT$$

$$Q = m\,c\,\Delta T$$

$$Q_t = L_t \cdot m$$

$$Q_i = L_i \cdot m$$

Elektromagnetizam

$$Q = N \cdot e$$

$$F = \frac{k}{\varepsilon_r}\frac{Q_1 Q_2}{r^2}$$

$$E = \frac{F}{Q}$$

$$E = \frac{k}{\varepsilon_r}\frac{Q}{r^2}$$

$$E_{pot} = \frac{k}{\varepsilon_r}\frac{Q_1 Q_2}{r}$$

Konstante

$$\alpha_{\check{c}elik} = 1.1\ \cdot 10^{-5}\ K^{-1}$$

$$\alpha_{\check{z}eljezo} = 1.2\ \cdot 10^{-5}\ K^{-1}$$

$$c_{voda} = 4190\ J/KgK$$

$$P_{atm} = 101325\ Pa$$

$$g = 9.81\ m/s^2$$

$$\rho_{voda} = 1000\ kg/m^3$$

$$k = 9\ \cdot 10^9\ Nm^2/C^2$$