

# EEL-3120-RVC

## Project assignment

Assignment date: 07 February, 2020

Group No. 14

Linear system dimension  $n = 21$

$$\begin{cases} -556.92 x_1 - 803.43 x_{10} - 421.43 x_{11} + 505.17 x_{12} - 951.01 x_{13} - 488.34 x_{14} - 697.91 x_{15} + 387.42 x_{16} - 103.13 x_{17} - 610.66 x_{18} + 659.56 x_{19} + 793.76 x_2 - 648.07 x_{20} - 337.66 x_{21} - 833.37 x_3 + 701.23 x_4 + 253.53 x_5 - 386.79 x_6 - 272.99 x_7 + 783.53 x_8 - 800.46 x_9 = 108.24 \\ 170.79 x_1 - 159.33 x_{10} + 915.04 x_{11} + 250.8 x_{12} - 219.81 x_{13} - 220.42 x_{14} + 19.82 x_{15} + 498.58 x_{16} + 384.81 x_{17} + 92.45 x_{18} + 930.79 x_{19} + 3.01 x_2 - 563.66 x_{20} + 898.46 x_{21} - 915.14 x_3 + 237.16 x_4 + 190.03 x_5 + 271.77 x_6 - 852.8 x_7 + 955.09 x_8 - 49.06 x_9 = -473.03 \\ 389.59 x_1 + 69.54 x_{10} - 273.47 x_{11} + 626.66 x_{12} - 610.59 x_{13} - 403.16 x_{14} - 448.99 x_{15} - 255.71 x_{16} - 525.58 x_{17} - 906.89 x_{18} + 671.41 x_{19} - 439.76 x_2 + 965.49 x_{20} + 414.82 x_{21} - 571.26 x_3 + 678.09 x_4 - 587.27 x_5 - 781.37 x_6 + 73.25 x_7 + 411.69 x_8 + 167.85 x_9 = 186.72 \\ 711.61 x_1 - 409.87 x_{10} - 798.73 x_{11} - 314.61 x_{12} - 916.9 x_{13} - 568.76 x_{14} + 205.25 x_{15} + 52.23 x_{16} + 759.75 x_{17} + 904.78 x_{18} + 190.21 x_{19} + 472.24 x_2 - 661.14 x_{20} - 16.91 x_{21} - 540.48 x_3 - 358.79 x_4 + 736.33 x_5 - 636.51 x_6 - 886.49 x_7 + 52.58 x_8 + 357.47 x_9 = 760.43 \\ 149.56 x_1 - 716.48 x_{10} + 943.66 x_{11} - 301.14 x_{12} - 732.31 x_{13} + 718.86 x_{14} - 987.86 x_{15} + 479.33 x_{16} + 396.72 x_{17} + 61.29 x_{18} + 668.34 x_{19} + 683.41 x_2 - 290.25 x_{20} - 865.97 x_{21} + 317.76 x_3 + 711.77 x_4 - 210.74 x_5 - 107.38 x_6 + 154.5 x_7 - 309.28 x_8 + 975.5 x_9 = -642.09 \\ 972.38 x_1 - 14.93 x_{10} - 488.36 x_{11} + 454.47 x_{12} - 120.25 x_{13} - 725.65 x_{14} + 462.36 x_{15} + 449.15 x_{16} + 981.35 x_{17} + 445.9 x_{18} - 113.01 x_{19} + 257.51 x_2 + 173.78 x_{20} - 67.05 x_{21} + 746.76 x_3 + 176.63 x_4 + 911.03 x_5 - 340.43 x_6 + 600.14 x_7 + 534.84 x_8 - 315.43 x_9 = 101.04 \\ -45.35 x_1 - 612.12 x_{10} - 504.65 x_{11} - 155.14 x_{12} + 245.19 x_{13} - 497.73 x_{14} + 345.05 x_{15} + 680.55 x_{16} - 789.68 x_{17} + 97.87 x_{18} - 393.32 x_{19} - 849.3 x_2 - 143.51 x_{20} + 591.54 x_{21} - 978.46 x_3 + 38.77 x_4 - 975.62 x_5 - 486.26 x_6 + 841.09 x_7 + 80.44 x_8 + 182.94 x_9 = -950.97 \\ 817.93 x_1 + 129.98 x_{10} + 174.75 x_{11} + 567.5 x_{12} - 766.99 x_{13} + 16.18 x_{14} + 792.16 x_{15} + 556.49 x_{16} - 688.55 x_{17} + 563.56 x_{18} - 88.44 x_{19} + 683.17 x_2 + 956.72 x_{20} - 480.07 x_{21} + 308.59 x_3 - 45.27 x_4 - 161.19 x_5 - 641.1 x_6 + 627.74 x_7 - 499.38 x_8 - 433.03 x_9 = -599.92 \\ 143.68 x_1 + 693.15 x_{10} + 71.92 x_{11} - 741.13 x_{12} + 48.65 x_{13} + 699.33 x_{14} + 505.28 x_{15} - 429.56 x_{16} - 218.54 x_{17} + 169.92 x_{18} + 773.89 x_{19} + 498.7 x_2 - 555.66 x_{20} - 632.32 x_{21} + 633.41 x_3 + 74.97 x_4 - 251.44 x_5 + 222.74 x_6 + 428.05 x_7 + 168.18 x_8 - 628.78 x_9 = -186.38 \\ -87.55 x_1 - 277.02 x_{10} + 385.43 x_{11} + 471.38 x_{12} + 528.72 x_{13} - 96.01 x_{14} - 547.41 x_{15} + 39.44 x_{16} - 673.84 x_{17} - 950.32 x_{18} - 834.42 x_{19} - 472.2 x_2 - 855.99 x_{20} - 455.14 x_{21} + 395.02 x_3 + 864.52 x_4 - 91.61 x_5 + 610.29 x_6 - 396.72 x_7 + 114.68 x_8 + 296.18 x_9 = -713.02 \\ 456.19 x_1 - 951.41 x_{10} - 4.4 x_{11} + 550.33 x_{12} - 49.58 x_{13} - 560.22 x_{14} - 793.62 x_{15} - 618.4 x_{16} - 908.66 x_{17} + 994.44 x_{18} + 11.58 x_{19} + 15.76 x_2 - 749.4 x_{20} + 493.03 x_{21} - 19.23 x_3 - 42.76 x_4 + 306.25 x_5 + 8.62 x_6 - 275.73 x_7 + 195.28 x_8 - 692.14 x_9 = 326.35 \\ -600.16 x_1 - 198.59 x_{10} - 202.73 x_{11} - 742.69 x_{12} + 263.92 x_{13} + 542.96 x_{14} - 318.56 x_{15} - 467.66 x_{16} - 689.21 x_{17} + 307.81 x_{18} - 713.82 x_{19} + 375.12 x_2 + 508.87 x_{20} + 971.49 x_{21} - 873.8 x_3 - 393.69 x_4 - 524.12 x_5 - 288.62 x_6 - 559.63 x_7 + 778.78 x_8 + 610.79 x_9 = -791. \\ -671.3 x_1 + 14.07 x_{10} - 697.83 x_{11} + 364.97 x_{12} - 154.93 x_{13} + 797.55 x_{14} + 1.22 x_{15} - 532.32 x_{16} + 492.23 x_{17} + 286.71 x_{18} + 263.25 x_{19} - 107.36 x_2 + 963.9 x_{20} + 594.99 x_{21} + 506.68 x_3 - 489.73 x_4 + 688.09 x_5 + 256.44 x_6 - 66.1 x_7 + 223.61 x_8 + 275.39 x_9 = 462.47 \\ -505.83 x_1 + 169.17 x_{10} + 317.46 x_{11} - 860.32 x_{12} + 839.54 x_{13} + 135.87 x_{14} + 427.27 x_{15} - 806.9 x_{16} - 25.25 x_{17} + 271.6 x_{18} + 57.28 x_{19} - 412.98 x_2 - 639.74 x_{20} + 708.87 x_{21} - 973.38 x_3 - 946.27 x_4 - 497.88 x_5 + 35.44 x_6 - 994.6 x_7 + 538.06 x_8 - 250.66 x_9 = -958.22 \\ 74.87 x_1 - 928.29 x_{10} - 298.47 x_{11} + 650.38 x_{12} - 376.59 x_{13} - 984.67 x_{14} + 404.19 x_{15} + 930.59 x_{16} + 498.38 x_{17} - 893.38 x_{18} + 416.49 x_{19} - 902.13 x_2 - 285.33 x_{20} - 291.05 x_{21} - 324.09 x_3 - 977.83 x_4 - 581.2 x_5 + 646.72 x_6 - 476.28 x_7 - 169.82 x_8 + 858.82 x_9 = 926.86 \\ -524.74 x_1 - 892.68 x_{10} + 605.39 x_{11} - 31.29 x_{12} + 430.5 x_{13} - 626.01 x_{14} + 104.69 x_{15} + 927.08 x_{16} - 191.86 x_{17} + 420.02 x_{18} - 617.53 x_{19} - 959.57 x_2 - 240.52 x_{20} + 89.43 x_{21} + 591.77 x_3 - 659.44 x_4 + 789.8 x_5 + 430.72 x_6 - 854.3 x_7 + 978.32 x_8 + 117.18 x_9 = -707.2 \\ -531.2 x_1 + 39.05 x_{10} - 853.05 x_{11} + 324.07 x_{12} - 313.41 x_{13} + 809.96 x_{14} - 331.08 x_{15} + 641.86 x_{16} - 735.67 x_{17} - 334.46 x_{18} + 426.92 x_{19} - 472.47 x_2 + 826.24 x_{20} - 905.42 x_{21} + 635.9 x_3 - 909.79 x_4 - 41.48 x_5 - 526.4 x_6 + 620.54 x_7 + 2.37 x_8 + 247.2 x_9 = -502.96 \\ -16.13 x_1 - 565.55 x_{10} + 531.08 x_{11} - 633.04 x_{12} + 267.22 x_{13} + 726.44 x_{14} + 507.76 x_{15} - 939.41 x_{16} + 338.02 x_{17} + 384.48 x_{18} - 862.2 x_{19} - 46.3 x_2 - 473.47 x_{20} + 802.86 x_{21} + 900.99 x_3 + 205.47 x_4 + 882.27 x_5 + 267.67 x_6 + 431.94 x_7 - 386.63 x_8 - 28.79 x_9 = -95.1 \\ -705.58 x_1 + 513.53 x_{10} + 476.75 x_{11} - 995.36 x_{12} + 437.48 x_{13} - 518.3 x_{14} + 971.96 x_{15} + 217.74 x_{16} - 312.27 x_{17} + 303.06 x_{18} - 265.77 x_{19} - 30.6 x_2 - 354.47 x_{20} - 56.54 x_{21} + 896.96 x_3 + 108.14 x_4 - 799.41 x_5 + 454.12 x_6 - 941.5 x_7 + 606.9 x_8 - 10.67 x_9 = 330.55 \\ -871.03 x_1 + 307.77 x_{10} - 663.96 x_{11} + 308.48 x_{12} + 557.24 x_{13} - 346.25 x_{14} - 294.61 x_{15} - 593.74 x_{16} - 361.91 x_{17} + 313.78 x_{18} - 108.73 x_{19} - 507.31 x_2 + 9.05 x_{20} + 944.91 x_{21} + 890.62 x_3 - 413.69 x_4 - 373.47 x_5 - 492.65 x_6 + 438.48 x_7 + 770.97 x_8 + 566.23 x_9 = -481.31 \\ 817.04 x_1 + 151.73 x_{10} - 704.24 x_{11} - 284.73 x_{12} + 369.63 x_{13} - 174.42 x_{14} - 38.16 x_{15} + 401.12 x_{16} + 869.66 x_{17} - 954.64 x_{18} + 38.04 x_{19} + 927.76 x_2 - 249.98 x_{20} - 956.08 x_{21} + 688.81 x_3 - 786.28 x_4 + 954.26 x_5 - 980.58 x_6 + 300.45 x_7 + 544.42 x_8 + 127.19 x_9 = -197.11 \end{cases}$$