**Quality Associates, Inc.**

Quality Associates, Inc., a consulting firm, advises its clients about sampling and statistical procedures that can be used to control their manufacturing processes. In one particular application, a client gave Quality Associates a sample of 800 observations taken during a time in which that client’s process was operating satisfactorily. The sample standard deviation for these data was 0.21; hence, with so much data, the population standard deviation was assumed to be 0.21. Quality Associates then suggested that random samples of size 30 be taken periodically to monitor the process on an ongoing basis. By analyzing the new samples, the client could quickly learn whether the process was operating satisfactorily. When the process was not operating satisfactorily, corrective action could be taken to eliminate the problem. The design specifications indicated the mean for the process should be 12. The hypothesis test suggested by Quality Associates follows.

*Ho*: μ = 12

*Ha*: μ ≠ 12

Corrective action will be taken any time *Ho* is rejected.

The samples below were collected at hourly intervals during the first day of operation of the new statistical process control procedure.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample 1** | **Sample 2** | **Sample 3** | **Sample 4** |
| 11.55 | 11.62 | 11.91 | 12.02 |
| 11.62 | 11.69 | 11.36 | 12.02 |
| 11.52 | 11.59 | 11.75 | 12.05 |
| 11.75 | 11.82 | 11.95 | 12.18 |
| 11.90 | 11.97 | 12.14 | 12.11 |
| 11.64 | 11.71 | 11.72 | 12.07 |
| 11.64 | 11.71 | 11.72 | 12.07 |
| 11.80 | 11.87 | 11.61 | 12.05 |
| 12.03 | 12.10 | 11.85 | 11.64 |
| 11.94 | 12.01 | 12.16 | 12.39 |
| 11.92 | 11.99 | 11.91 | 11.65 |
| 12.13 | 12.20 | 12.12 | 12.11 |
| 12.09 | 12.16 | 11.61 | 11.90 |
| 11.93 | 12.00 | 12.21 | 12.22 |
| 12.21 | 12.28 | 11.56 | 11.88 |
| 12.32 | 12.39 | 11.95 | 12.03 |
| 11.93 | 12.00 | 12.01 | 12.35 |
| 11.85 | 11.92 | 12.06 | 12.09 |
| 11.76 | 11.83 | 11.76 | 11.77 |
| 12.16 | 12.23 | 11.82 | 12.20 |
| 11.77 | 11.84 | 12.12 | 11.79 |
| 12.00 | 12.07 | 11.60 | 12.30 |
| 12.04 | 12.11 | 11.95 | 12.27 |
| 11.98 | 12.05 | 11.96 | 12.29 |
| 12.30 | 12.37 | 12.22 | 12.47 |
| 12.18 | 12.25 | 11.75 | 12.03 |
| 11.97 | 12.04 | 11.96 | 12.17 |
| 12.17 | 12.24 | 11.95 | 11.94 |
| 11.85 | 11.92 | 11.89 | 11.97 |
| 12.30 | 12.37 | 11.88 | 12.23 |
| 12.15 | 12.22 | 11.93 | 12.25 |

**Managerial Report**

1. Conduct a hypothesis test for each sample at the 0.01 level of significance and determine what action, if any, should be taken. Provide the test statistic and *p*-value for each test.
2. Compare the standard deviation for each of the four samples. Does the assumption of 0.21 for the population standard deviation appear reasonable?



1. Compute limits for the sample mean around μ = 12 such that, as long as a new sample mean is within those limits, the process will be considered to be operating satisfactorily. If exceeds the upper limit or if is below the lower limit, corrective action will be taken. These limits are referred to as upper and lower control limits for quality control purposes.



1. Discuss the implications of changing the level of significance to a large value. What mistake or error could increase if the level of significance is increased?

1.Hypothesis Testing Result

Sample 1:

Sample Size: 30

Mean: 11.959

Standard Dev: 0.220

Alpha: 0.010

Lower Tail: -2.576

Upper Tail:2.576

Hypothesized value: 12

Standard error: 0.040

Test Statistic: -1.027

Sample 2

Sample Size: 30

Mean:12.029

Standard Dev:0.220

Alpha:0.010

Lower Tail:-2.576

Upper Tail:2.576

Hypothesized value:12

Standard error:0.040

Test Statistic:0.713

Sample 3

Sample Size: 30

Mean:11.889

Standard Dev:0.207

Alpha:0.010

Lower Tail:-2.576

Upper Tail:2.576

Hypothesized value:12

Standard error:0.038

Test Statistic:-2.935

Sample 4:

Sample Size: 30

Mean:12.081

Standard Dev:0.206

Alpha:0.010

Lower Tail:-2.576

Upper Tail:2.576

Hypothesized value:12

Standard error:0.038

Test Statistic:2.161

Sample 3 leads to rejection of Hypothesis H0: m=12 , so corrective action is warranted for sample 3. Other samples indicate H0 cannot be rejected. From this, we can say that the process is operating satisfactorily/well.

1. Sample standard dev for all 4 samples fall within 0.20 - 0.22 range. We can assume 0.21 process population standard deviation.

3.

Upper control limit= 12 + 2.576(0.0383 )= 12.0987

Lower Control Limit = 12 - 2.576(0.0383)= 11.9013

4.If you increase the level of significance, it is likely that the null hypothesis will be rejected. There will also be a higher error probability of stopping the process and attempting corrective action when the process is operating well. There would be an increase in the probability of making a type I error.

**Socrates and Erasmus**

The Socrates II European program supports cooperation in education in eight areas, from school to higher education, from new technologies, to adult learners. Within Socrates II is the program *Erasmus* that was established in 1987 with the objective to facilitate the mobility of higher education students within European universities. The program is named after the philosopher, theologian, and humanist, Erasmus of Rotterdam (1465 – 1536). Erasmus lived and worked in several parts of Europe in quest of knowledge and experience believing such contacts with different cultures could only furnish a broad knowledge. He left his fortune to the University of Basel and became a precursor of mobility grants.

The Erasmus program has 31 participating countries that include the 25 member states of the European Union, the three European Economic area countries of Iceland, Liechtenstein, and Norway, and the current three candidate countries – Romania, Bulgaria, and Turkey. The program is open to universities for all higher education programs including doctoral courses. In between the academic years 1987 – 1988 to 2003 – 2004 more than 1 million university students had spent an Erasmus period abroad and there are 2,199 higher education institutions participating in the program. The European Union budget for 2000 – 2006 is €950 million of which about €750 million is for student grants. In the academic year 2003 – 2004, the Erasmus students according to their country of origin and their country of study, or host country is given in the cross-classification Table 1 and the field of study for these students according to their home country is given in Table 2. It is the target of the Erasmus program to have a balance in the gender mix and the program administrators felt that the profile for subsequent academic years would be similar to the profile for the academic year 2003 – 2004.

**Required**

A sample of random data for the Erasmus program for the academic year 2005 – 2006 was provided by the registrar’s office and this is given in Table 3. Does this information bear out the program administrator’s belief if this is tested at the 1%, 5%, and 10% significance level for a difference?

**Table 1 Students by field of study 2003-2004 according to home country**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject** | **AT** | **BE** | **BG** | **CY** | **CZ** | **DK** | **EE** | **FI** | **FR** | **DE** | **GR** | **HU** | **IS** | **IE** | **IT** | **LV** |
| Agricultural sciences | 37 | 156 | 51 | 0 | 187 | 18 | 6 | 64 | 398 | 181 | 81 | 136 | 3 | 3 | 317 | 14 |
| Architecture, Planning | 128 | 163 | 32 | 0 | 168 | 54 | 12 | 30 | 519 | 762 | 149 | 75 | 0 | 30 | 877 | 9 |
| Art and design | 193 | 209 | 42 | 0 | 182 | 60 | 47 | 326 | 651 | 906 | 143 | 114 | 24 | 90 | 756 | 31 |
| Business studies | 1,117 | 1,089 | 97 | 7 | 584 | 364 | 47 | 1,383 | 6,573 | 5,023 | 306 | 450 | 56 | 593 | 1,963 | 88 |
| Education, Teacher training | 260 | 414 | 12 | 24 | 228 | 74 | 2 | 100 | 320 | 535 | 81 | 126 | 22 | 24 | 267 | 27 |
| Engineering, Technology | 248 | 384 | 133 | 3 | 481 | 112 | 22 | 487 | 2,833 | 1,376 | 143 | 147 | 20 | 52 | 1,545 | 10 |
| Geography, Geology | 32 | 28 | 12 | 0 | 90 | 27 | 9 | 33 | 259 | 433 | 46 | 66 | 3 | 12 | 206 | 14 |
| Humanities | 147 | 105 | 14 | 0 | 148 | 141 | 9 | 136 | 598 | 1,048 | 131 | 64 | 13 | 51 | 1,144 | 13 |
| Languages, Philological sciences | 505 | 603 | 73 | 15 | 464 | 346 | 51 | 316 | 3,321 | 3,528 | 327 | 248 | 47 | 305 | 3,346 | 21 |
| Law | 231 | 357 | 37 | 0 | 185 | 103 | 28 | 117 | 1,449 | 1,474 | 191 | 159 | 7 | 142 | 1,455 | 7 |
| Mathematics, Informatics | 146 | 139 | 86 | 0 | 123 | 20 | 4 | 108 | 570 | 803 | 104 | 64 | 4 | 45 | 392 | 13 |
| Medical sciences | 144 | 349 | 60 | 12 | 222 | 115 | 12 | 291 | 399 | 1,021 | 172 | 125 | 4 | 46 | 1,045 | 8 |
| Natural sciences | 143 | 51 | 33 | 0 | 113 | 33 | 4 | 93 | 843 | 879 | 87 | 29 | 3 | 62 | 453 | 6 |
| Social sciences | 250 | 500 | 48 | 3 | 309 | 171 | 32 | 307 | 1,787 | 2,067 | 343 | 200 | 15 | 210 | 2,220 | 38 |
| Communication and information science | 112 | 212 | 19 | 0 | 14 | 44 | 12 | 100 | 295 | 425 | 38 | 23 | 0 | 32 | 723 | 5 |
| Other areas | 28 | 30 | 2 | 0 | 91 | 4 | 8 | 60 | 166 | 227 | 43 | 32 | 0 | 8 | 120 | 4 |
| Total | 3,721 | 4,789 | 751 | 64 | 3,589 | 1,686 | 305 | 3,951 | 20,981 | 20,688 | 2,385 | 2,058 | 221 | 1,705 | 16,829 | 308 |

**Table 1 (Continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject** | **LI** | **LT** | **LU** | **MT** | **NL** | **NO** | **PL** | **PT** | **RO** | **SK** | **SI** | **ES** | **SE** | **UK** | **EUI** | **Total** |
| Agricultural sciences | 0 | 48 | 0 | 0 | 80 | 27 | 112 | 69 | 61 | 37 | 23 | 566 | 19 | 23 | 0 | 2,717 |
| Architecture, Planning | 9 | 37 | 4 | 2 | 109 | 19 | 321 | 264 | 64 | 18 | 24 | 854 | 64 | 96 | 0 | 4,893 |
| Art and design | 0 | 63 | 4 | 3 | 145 | 69 | 232 | 205 | 87 | 34 | 38 | 905 | 90 | 489 | 0 | 6,138 |
| Business studies | 10 | 241 | 15 | 6 | 1,089 | 275 | 1,342 | 386 | 290 | 169 | 146 | 3,244 | 902 | 1,332 | 0 | 29,187 |
| Education, Teacher training | 0 | 56 | 43 | 11 | 354 | 92 | 126 | 215 | 47 | 15 | 17 | 602 | 69 | 163 | 0 | 4,326 |
| Engineering, Technology | 0 | 189 | 6 | 9 | 224 | 112 | 752 | 479 | 604 | 106 | 35 | 3,109 | 424 | 269 | 0 | 14,314 |
| Geography, Geology | 0 | 25 | 8 | 2 | 84 | 5 | 158 | 66 | 147 | 10 | 6 | 450 | 31 | 88 | 0 | 2,350 |
| Humanities | 0 | 33 | 2 | 1 | 81 | 39 | 171 | 60 | 116 | 22 | 12 | 654 | 48 | 206 | 8 | 5,215 |
| Languages, Philological sciences | 0 | 92 | 14 | 7 | 253 | 84 | 675 | 334 | 451 | 84 | 97 | 2,568 | 121 | 2,875 | 0 | 21,171 |
| Law | 0 | 87 | 6 | 31 | 303 | 77 | 429 | 190 | 98 | 25 | 51 | 1,413 | 195 | 754 | 1 | 9,602 |
| Mathematics, Informatics | 0 | 65 | 0 | 1 | 55 | 35 | 301 | 87 | 176 | 23 | 3 | 674 | 46 | 92 | 0 | 4,179 |
| Medical sciences | 0 | 85 | 8 | 32 | 219 | 142 | 247 | 407 | 209 | 71 | 6 | 1,211 | 176 | 232 | 0 | 7,070 |
| Natural sciences | 0 | 43 | 7 | 4 | 51 | 22 | 361 | 216 | 206 | 29 | 2 | 1,062 | 84 | 220 | 0 | 5,139 |
| Social sciences | 0 | 97 | 19 | 5 | 992 | 137 | 928 | 487 | 355 | 29 | 65 | 1,701 | 313 | 585 | 1 | 14,214 |
| Communication and information science | 0 | 17 | 1 | 5 | 264 | 10 | 68 | 155 | 54 | 3 | 19 | 800 | 56 | 83 | 0 | 3,589 |
| Other areas | 0 | 16 | 1 | 0 | 85 | 11 | 53 | 162 | 40 | 7 | 2 | 221 | 29 | 32 | 0 | 1,482 |
| Total | 19 | 1,194 | 138 | 119 | 4,388 | 1,156 | 6,276 | 3,782 | 3,005 | 682 | 546 | 20,034 | 2,667 | 7,539 | 10 | 135,586 |

***Table 2* Erasmus students 2003-2007 by home country and host country**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Home Country** | **Code** | **AT** | **BE** | **BG** | **CY** | **CZ** | **DK** | **EE** | **FI** | **FR** | **DE** | **GR** | **HU** | **IS** | **IE** | **IT** | **LV** |
| Austria | AT |  | 79 | 3 | 5 | 51 | 104 | 7 | 227 | 528 | 262 | 30 | 30 | 15 | 132 | 461 | 5 |
| Belgium | BE | 105 |  | 11 | 1 | 51 | 84 | 5 | 218 | 768 | 306 | 75 | 28 | 3 | 121 | 467 | 4 |
| Bulgaria | BG | 52 | 46 |  |  |  | 14 |  | 16 | 136 | 227 | 62 |  |  | 6 | 39 |  |
| Cyprus | CY | 1 | 0 | 0 |  |  | 2 |  | 14 | 9 | 4 | 13 |  |  | 0 | 3 |  |
| Czech Republic | CZ | 211 | 134 |  |  |  | 103 |  | 241 | 510 | 931 | 78 |  |  | 43 | 180 |  |
| Denmark | DK | 70 | 44 |  | 2 | 19 |  | 2 | 5 | 260 | 302 | 13 | 3 | 12 | 36 | 111 |  |
| Estonia | EE | 16 | 10 |  |  |  | 19 |  | 47 | 42 | 59 | 6 |  |  | 2 | 26 |  |
| Finland | FI | 229 | 148 | 5 | 9 | 126 | 37 | 35 |  | 413 | 654 | 72 | 162 | 14 | 111 | 190 | 9 |
| France | FR | 361 | 420 | 9 | 10 | 206 | 500 | 21 | 727 |  | 2,804 | 218 | 169 | 23 | 1,081 | 1,550 | 3 |
| Germany | DE | 387 | 330 | 17 | 7 | 207 | 410 | 25 | 918 | 3,997 |  | 165 | 171 | 47 | 926 | 1,755 | 23 |
| Greece | GR | 71 | 140 | 6 | 8 | 63 | 45 | 1 | 116 | 420 | 356 |  | 20 | 2 | 27 | 248 | 1 |
| Hungary | HU | 110 | 98 |  |  |  | 44 |  | 201 | 276 | 566 | 42 |  |  | 15 | 227 |  |
| Iceland | IS | 10 | 4 |  |  |  | 54 |  | 1 | 26 | 40 | 3 |  |  | 2 | 16 |  |
| Ireland | IE | 35 | 47 | 6 | 1 | 26 | 30 | 2 | 40 | 557 | 292 | 12 | 5 |  |  | 109 |  |
| Italy | IT | 339 | 633 | 8 | 7 | 86 | 357 | 28 | 367 | 2,859 | 1,994 | 180 | 129 | 29 | 230 |  | 4 |
| Latvia | LV | 8 | 27 |  |  |  | 13 |  | 42 | 18 | 111 | 2 |  |  | 2 | 9 |  |
| Liechtenstein | LI | 0 | 0 |  |  |  | 2 |  | 3 |  | 1 |  |  |  | 1 |  |  |
| Lithuania | LT | 49 | 70 |  |  |  | 145 |  | 180 | 77 | 294 | 18 |  |  | 10 | 67 |  |
| Luxembourg | LU | 17 | 1 | 0 | 0 | 2 | 2 | 0 | 1 | 27 | 39 |  | 0 | 0 | 0 | 9 | 0 |
| Malta | MT | 4 | 5 | 0 | 0 | 0 | 2 | 0 | 6 | 3 | 6 | 0 |  |  | 6 | 52 |  |
| Netherlands | NL | 98 | 184 | 1 | 0 | 44 | 158 | 7 | 275 | 543 | 391 | 42 | 49 | 11 | 88 | 256 | 6 |
| Norway | NO | 50 | 28 | 0 | 0 | 0 | 53 | 0 | 15 | 156 | 190 | 15 | 0 | 0 | 17 | 85 | 0 |
| Poland | PL | 159 | 358 |  |  |  | 362 |  | 310 | 855 | 1,870 | 122 |  |  | 74 | 481 |  |
| Portugal | PT | 53 | 250 | 8 | 8 | 103 | 63 | 3 | 95 | 325 | 295 | 53 | 59 | 4 | 19 | 713 | 5 |
| Romania | RO | 38 | 163 |  |  |  | 29 |  | 33 | 1,125 | 457 | 87 |  |  | 21 | 448 |  |
| Slovakia | SK | 44 | 50 |  |  |  | 11 |  | 52 | 80 | 191 | 24 |  |  | 2 | 58 |  |
| Slovenia | SI | 59 | 30 |  |  |  | 19 |  | 24 | 62 | 125 | 6 |  |  | 1 | 56 |  |
| Spain | ES | 298 | 1,054 | 11 | 0 | 169 | 573 | 12 | 501 | 3,412 | 2,553 | 178 | 67 | 21 | 513 | 4,250 | 1 |
| Sweden | SE | 142 | 42 | 0 | 0 | 38 | 25 | 10 | 24 | 484 | 426 | 17 | 28 | 9 | 80 | 137 | 3 |
| United Kingdom | UK | 143 | 117 | 5 | 4 | 107 | 136 | 8 | 233 | 2,303 | 1,127 | 60 | 31 | 9 | 21 | 740 | 1 |
| EUI\* | EUR | 2 |  |  |  |  |  |  |  | 4 | 1 |  |  |  |  |  |  |
| Total |  | 3,161 | 4,513 | 90 | 62 | 1,298 | 3,396 | 166 | 4,932 | 20,275 | 16,874 | 1,593 | 951 | 199 | 3,587 | 12,743 | 65 |

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***Table 2* (Continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Home Country** | **Code** | **LI** | **LT** | **LU** | **MT** | **NL** | **NO** | **PL** | **PT** | **RO** | **SK** | **SI** | **ES** | **SE** | **UK** | **Total** |
| Austria | AT | 1 | 12 | 0 | 14 | 215 | 82 | 22 | 60 | 8 | 6 | 16 | 631 | 305 | 410 | 3,721 |
| Belgium | BE | 0 | 7 | 3 | 13 | 377 | 40 | 69 | 207 | 30 | 10 | 9 | 1,287 | 149 | 341 | 4,789 |
| Bulgaria | BG |  |  |  |  | 23 |  |  | 34 |  |  |  | 43 | 9 | 44 | 751 |
| Cyprus | CY |  |  |  |  |  |  |  | 2 |  |  |  | 3 | 5 | 8 | 64 |
| Czech Republic | CZ |  |  |  |  | 203 |  |  | 189 |  |  |  | 286 | 163 | 317 | 3,589 |
| Denmark | DK |  | 3 |  | 4 | 117 | 27 | 12 | 15 | 5 |  | 5 | 259 | 30 | 330 | 1,686 |
| Estonia | EE |  |  |  |  | 10 |  |  | 4 |  |  |  | 30 | 26 | 8 | 305 |
| Finland | FI |  | 15 |  | 16 | 377 | 15 | 60 | 58 | 13 | 22 | 29 | 479 | 101 | 552 | 3,951 |
| France | FR |  | 25 | 6 | 43 | 891 | 246 | 314 | 288 | 167 | 30 | 40 | 5,115 | 1,062 | 4,652 | 20,981 |
| Germany | DE | 8 | 49 | 1 | 28 | 862 | 463 | 395 | 283 | 27 | 26 | 24 | 4,325 | 1,653 | 3,159 | 20,688 |
| Greece | GR |  | 1 | 1 | 5 | 106 | 17 | 14 | 90 | 3 | 0 | 2 | 374 | 109 | 139 | 2,385 |
| Hungary | HU |  |  |  |  | 145 |  |  | 42 |  |  |  | 125 | 58 | 109 | 2,058 |
| Iceland | IS |  |  |  |  | 13 |  |  | 1 |  |  |  | 36 | 2 | 13 | 221 |
| Ireland | IE |  | 4 |  | 5 | 110 | 8 | 10 | 18 |  |  | 3 | 291 | 57 | 37 | 1,705 |
| Italy | IT | 1 | 28 |  | 71 | 607 | 156 | 174 | 766 | 129 | 29 | 20 | 5,688 | 399 | 1,511 | 16,829 |
| Latvia | LV |  |  |  |  | 24 |  |  | 4 |  |  |  | 9 | 32 | 7 | 308 |
| Liechtenstein | LI |  |  |  |  | 4 |  |  | 2 |  |  |  |  | 1 | 5 | 19 |
| Lithuania | LT |  |  |  |  | 30 |  |  | 51 |  |  |  | 61 | 120 | 22 | 1,194 |
| Luxembourg | LU | 0 | 0 |  | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 14 | 3 | 16 | 138 |
| Malta | MT |  |  |  |  | 7 |  |  | 2 |  |  |  | 3 | 1 | 22 | 119 |
| Netherlands | NL | 0 | 10 | 0 | 18 |  | 140 | 21 | 93 | 14 | 3 | 5 | 907 | 389 | 635 | 4,388 |
| Norway | NO | 0 | 0 | 0 |  | 78 |  | 0 | 36 | 0 | 0 | 0 | 231 | 42 | 159 | 1,156 |
| Poland | PL |  |  |  |  | 294 |  |  | 222 |  |  |  | 546 | 286 | 337 | 6,276 |
| Portugal | PT | 1 | 26 | 0 | 4 | 250 | 38 | 125 |  | 68 | 7 | 14 | 920 | 95 | 178 | 3,782 |
| Romania | RO |  |  |  |  | 72 |  |  | 119 |  |  |  | 285 | 42 | 86 | 3,005 |
| Slovakia | SK |  |  | 3 |  | 29 |  |  | 30 |  |  |  | 59 | 17 | 32 | 682 |
| Slovenia | SI |  |  |  |  | 25 |  |  | 30 |  |  |  | 63 | 17 | 29 | 546 |
| Spain | ES | 0 | 24 | 0 | 9 | 1,263 | 200 | 176 | 992 | 59 | 32 | 22 |  | 670 | 2,974 | 20,034 |
| Sweden | SE | 0 | 11 | 0 | 11 | 236 | 22 | 24 | 25 | 3 | 0 | 6 | 370 |  | 494 | 2,667 |
| United Kingdom | UK | 0 | 3 | 0 | 12 | 365 | 69 | 42 | 97 | 10 | 16 | 6 | 1,636 | 238 |  | 7,539 |
| EUI\* | EUR |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2 | 10 |
| Total |  | 11 | 218 | 14 | 253 | 6,733 | 1,523 | 1,459 | 3,766 | 536 | 181 | 201 | 24,076 | 6,082 | 16,628 | 135,586 |

\*European University Institute, Florence

***Table 3* Sample of Erasmus student enrollments for the academic year 2005-2006**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Family name** | **First name** | **Home country** | **Study area** | **Gender** |
| Algard | Erik | Norway | Business studies | M |
| Alinei | Gratian | Romania | Business studies | M |
| Andersen | Birgitte Brix | Denmark | Engineering, Technology | F |
| Bay | Hilde | Norway | Social sciences | F |
| Bednarczyk | Tomasz | Poland | Law | M |
| Berberich | Remi | Germany | Engineering, Technology | M |
| Berculo | Ruwan | Netherlands | Business studies | M |
| Engler | Dorothea | Germany | Geography, Geology | F |
| Ernst | Folker | Germany | Business studies | M |
| Fouche | Elie | France | Education, Teacher training | M |
| Garcia | Miguel | Spain | Communication and information science | M |
| Guenin | Aurelie | France | Humanities | F |
| Johannessen | Sanne Lyng | Denmark | Business studies | F |
| Justnes | Petter | Norway | Languages, Philological sciences | M |
| Kauffeldt | Ane Katrine | Denmark | Business studies | F |
| Keddie | Nikki | United Kingdom | Mathematics, Informatics | F |
| Lorenz | Jan Sebastian | Germany | Business studies | M |
| Mallet | Guillaume | France | Business studies | M |
| Manzo | Margherita | Italy | Business studies | F |
| Margineanu | Florin | Romania | Agricultural sciences | M |
| Miechowka | Anne Sophie | France | Engineering, Technology | F |
| Mynborg | Astrid | Denmark | Humanities | F |
| Napolitano | Silvia | Italy | Architecture, Planning | F |
| Neilson | Alison | United Kingdom | Business studies | F |
| Ou | Kalvin | France | Education, Teacher training | M |
| Rachbauer | Thomas | Austria | Engineering, Technology | M |
| Savreux | Margaux | France | Mathematics, Informatics | F |
| Seda | Jiri | Czech Republic | Agricultural sciences | M |
| Semoradova | Petra | Czech Republic | Natural sciences | F |
| Torres | Maria Teresa | Spain | Humanities | F |
| Ungerstedt | Malin | Sweden | Law | F |
| Ververken | Alexander | Belgium | Languages, Philological sciences | M |
| Viscardi | Alessandra | Italy | Business studies | F |
| Zawisza | Katarzyna | Poland | Business studies | F |