

## 2013 Scaling Report

VCAA provides VTAC with study scores (relative positions). These study scores are scaled in order to calculate scaled aggregates and Australian Tertiary Admission Ranks (ATARs). Candidates are in the 2013 scaling population if, excluding small studies, they have obtained at least one VCAA study score in 2013, at least four in total, at least one in an English study [English, English (SL), English Language or Literature], but do not already have an ATAR. The scaling population is therefore a subset of the entire population. The means and standard deviations below pertain to the scaling population in 2013.

The following table gives the 2013 scaled means and standard deviations as well as the VTAC scaled study scores (rounded to the nearest integer) corresponding to the study scores of 20, 25, 30, 35, 40, 45 and 50. The formal aggregation process uses VTAC scaled study scores to two decimal places, but the following information gives an indication of how scaling adjusts scores in the various studies.

| 2013 Study                           | Mean                               | St. Dev. | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|--------------------------------------|------------------------------------|----------|----|----|----|----|----|----|----|
| Accounting                           | 30.6                               | 7.2      | 19 | 25 | 30 | 36 | 41 | 46 | 50 |
| Agricultural & Horticultural Studies | 25.8                               | 6.8      | 15 | 19 | 24 | 29 | 35 | 41 | 50 |
| Art                                  | 26.9                               | 7.7      | 15 | 20 | 26 | 32 | 38 | 45 | 50 |
| Biology                              | 30.6                               | 7.2      | 20 | 25 | 31 | 36 | 41 | 46 | 50 |
| Business Management                  | 26.7                               | 7.2      | 16 | 21 | 26 | 32 | 37 | 44 | 50 |
| Chemistry                            | 34.0                               | 7.3      | 23 | 29 | 34 | 39 | 44 | 48 | 50 |
| Classical Studies                    | 30.9                               | 7.8      | 18 | 24 | 30 | 36 | 42 | 47 | 50 |
| Dance                                | 29.5                               | 6.8      | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| Product Design and Technology        | 24.3                               | 7.1      | 13 | 18 | 23 | 28 | 34 | 42 | 50 |
| Drama                                | 28.3                               | 7.5      | 17 | 22 | 27 | 33 | 39 | 45 | 50 |
| Economics                            | 32.0                               | 7.0      | 21 | 27 | 32 | 37 | 42 | 46 | 50 |
| English                              | 28.2                               | 7.5      | 17 | 22 | 28 | 33 | 39 | 45 | 50 |
| English (EAL)                        | 29.0                               | 8.0      | 17 | 22 | 29 | 35 | 41 | 46 | 50 |
| English Language                     | 32.1                               | 7.3      | 21 | 27 | 32 | 38 | 42 | 47 | 50 |
| Environmental Science                | 28.3                               | 7.1      | 18 | 23 | 28 | 34 | 39 | 45 | 50 |
| Food and Technology                  | 23.9                               | 7.0      | 14 | 18 | 23 | 28 | 34 | 42 | 50 |
| Geography                            | 29.5                               | 7.1      | 19 | 24 | 29 | 34 | 39 | 45 | 50 |
| Health and Human Development         | 26.3                               | 7.2      | 16 | 20 | 26 | 31 | 37 | 44 | 50 |
| <b>History:</b>                      |                                    |          |    |    |    |    |    |    |    |
| Australian History                   | 28.7                               | 8.0      | 16 | 22 | 28 | 34 | 40 | 46 | 50 |
| Renaissance Italy                    | 32.3                               | 8.0      | 19 | 26 | 32 | 38 | 44 | 48 | 50 |
| Revolutions                          | 29.8                               | 7.6      | 18 | 24 | 29 | 35 | 41 | 46 | 50 |
| Industry & Enterprise Studies        | 23.5                               | 7.0      | 11 | 15 | 20 | 26 | 33 | 41 | 50 |
| <b>Information Technology:</b>       |                                    |          |    |    |    |    |    |    |    |
| Software Development                 | 27.7                               | 6.8      | 18 | 22 | 27 | 33 | 38 | 44 | 50 |
| IT Applications                      | 25.7                               | 7.1      | 15 | 20 | 24 | 30 | 36 | 42 | 50 |
| <b>Politics:</b>                     |                                    |          |    |    |    |    |    |    |    |
| Australian Politics                  | 32.4                               | 6.7      | 22 | 27 | 33 | 38 | 42 | 47 | 50 |
| Global Politics                      | 32.8                               | 7.4      | 20 | 27 | 33 | 38 | 43 | 47 | 50 |
| Legal Studies                        | 28.5                               | 7.6      | 17 | 23 | 28 | 34 | 40 | 45 | 50 |
| Literature                           | 31.0                               | 7.2      | 20 | 26 | 31 | 36 | 41 | 46 | 50 |
| <b>Languages:</b>                    |                                    |          |    |    |    |    |    |    |    |
| Albanian                             | No candidates for scaling in 2013  |          |    |    |    |    |    |    |    |
| Arabic                               | 29.2                               | 6.8      | 20 | 25 | 30 | 34 | 39 | 44 | 50 |
| Armenian                             | Small Study, see Notes 1 & 2 below |          |    |    |    |    |    |    |    |
| Auslan                               | 31.5                               | 6.3      | 21 | 26 | 31 | 36 | 41 | 45 | 50 |
| Bosnian                              | 28.0                               | 6.6      | 18 | 23 | 28 | 33 | 38 | 44 | 50 |
| Chinese (FL)                         | 35.4                               | 7.5      | 21 | 28 | 34 | 40 | 45 | 48 | 50 |
| Chinese (SL)                         | 40.3                               | 6.8      | 30 | 36 | 41 | 46 | 49 | 52 | 54 |
| Chinese (SL Advanced)                | 37.9                               | 7.4      | 27 | 33 | 39 | 44 | 48 | 51 | 53 |
| Classical Greek                      | 45.0                               | 6.8      | 32 | 40 | 46 | 50 | 53 | 54 | 55 |
| Classical Hebrew                     | No candidates for scaling in 2013  |          |    |    |    |    |    |    |    |
| Croatian                             | 31.9                               | 5.2      | 24 | 28 | 31 | 35 | 39 | 43 | 50 |
| Dutch                                | Small Study, see Notes 1 & 2 below |          |    |    |    |    |    |    |    |
| Filipino                             | 32.0                               | 5.8      | 22 | 27 | 32 | 37 | 42 | 46 | 50 |
| French                               | 40.6                               | 6.6      | 30 | 36 | 41 | 45 | 49 | 52 | 54 |
| German                               | 38.8                               | 6.8      | 28 | 34 | 39 | 44 | 48 | 50 | 52 |
| Greek                                | 34.7                               | 6.5      | 24 | 30 | 35 | 40 | 44 | 48 | 50 |
| Hebrew                               | 43.1                               | 6.5      | 31 | 38 | 44 | 48 | 51 | 54 | 55 |
| Hindi                                | 32.9                               | 7.4      | 19 | 26 | 33 | 39 | 44 | 48 | 50 |
| Hungarian                            | Small Study, see Notes 1 & 2 below |          |    |    |    |    |    |    |    |
| Indigenous Languages of Victoria     | Small Study, see Notes 1 & 2 below |          |    |    |    |    |    |    |    |
| Indonesian (FL)                      | 34.5                               | 8.0      | 20 | 27 | 33 | 39 | 44 | 48 | 51 |
| Indonesian (SL)                      | 36.8                               | 6.9      | 26 | 32 | 37 | 42 | 46 | 49 | 50 |
| Italian                              | 36.6                               | 6.6      | 26 | 32 | 37 | 42 | 45 | 48 | 50 |
| Japanese (FL)                        | 30.0                               | 8.3      | 18 | 23 | 29 | 35 | 40 | 45 | 50 |
| Japanese (SL)                        | 38.4                               | 6.6      | 28 | 34 | 39 | 43 | 47 | 50 | 52 |

| <b>2013 Study</b>                        | <b>Mean</b>                        | <b>St. Dev.</b> | <b>20</b> | <b>25</b> | <b>30</b> | <b>35</b> | <b>40</b> | <b>45</b> | <b>50</b> |
|--|------------------------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Khmer                                    | 28.3                               | 6.8             | 17        | 22        | 27        | 32        | 38        | 44        | 50        |
| Korean (FL)                              | 33.9                               | 7.4             | 20        | 27        | 33        | 39        | 44        | 48        | 50        |
| Korean (SL)                              | 37.3                               | 7.2             | 24        | 32        | 38        | 43        | 47        | 50        | 52        |
| Latin                                    | 45.0                               | 6.2             | 35        | 41        | 46        | 50        | 52        | 54        | 55        |
| Macedonian                               | 31.4                               | 7.2             | 22        | 27        | 32        | 36        | 40        | 45        | 50        |
| Maltese                                  | Small Study, see Notes 1 & 2 below |                 |           |           |           |           |           |           |           |
| Persian                                  | 30.1                               | 6.5             | 19        | 24        | 30        | 35        | 41        | 46        | 50        |
| Polish                                   | 34.3                               | 6.8             | 25        | 30        | 35        | 40        | 44        | 47        | 50        |
| Portuguese                               | 33.3                               | 8.6             | 17        | 26        | 35        | 42        | 47        | 50        | 50        |
| Punjabi                                  | 31.6                               | 6.7             | 21        | 27        | 33        | 38        | 43        | 47        | 50        |
| Romanian                                 | Small Study, see Notes 1 & 2 below |                 |           |           |           |           |           |           |           |
| Russian                                  | 37.6                               | 5.9             | 28        | 34        | 38        | 42        | 45        | 48        | 50        |
| Serbian                                  | 32.4                               | 9.7             | 20        | 26        | 33        | 40        | 45        | 49        | 52        |
| Sinhala                                  | 34.5                               | 6.6             | 26        | 31        | 36        | 40        | 44        | 47        | 50        |
| Spanish                                  | 34.3                               | 7.4             | 23        | 29        | 35        | 40        | 45        | 48        | 50        |
| Swedish                                  | Small Study, see Notes 1 & 2 below |                 |           |           |           |           |           |           |           |
| Tamil                                    | Small Study, see Notes 1 & 2 below |                 |           |           |           |           |           |           |           |
| Turkish                                  | 29.2                               | 7.3             | 18        | 23        | 28        | 34        | 40        | 45        | 50        |
| Ukrainian                                | Small Study, see Notes 1 & 2 below |                 |           |           |           |           |           |           |           |
| Vietnamese                               | 34.1                               | 6.7             | 22        | 28        | 34        | 39        | 44        | 47        | 50        |
| Yiddish                                  | No candidates for scaling in 2013  |                 |           |           |           |           |           |           |           |
| <b>Mathematics:</b>                      |                                    |                 |           |           |           |           |           |           |           |
| Further Mathematics                      | 27.9                               | 7.0             | 18        | 23        | 28        | 33        | 38        | 44        | 50        |
| Mathematical Methods (CAS)               | 35.1                               | 8.5             | 22        | 29        | 36        | 42        | 47        | 50        | 52        |
| Specialist Mathematics                   | 41.3                               | 8.2             | 28        | 36        | 43        | 48        | 51        | 54        | 55        |
| Media                                    | 26.4                               | 7.3             | 15        | 20        | 25        | 31        | 37        | 44        | 50        |
| <b>Music:</b>                            |                                    |                 |           |           |           |           |           |           |           |
| Music Performance                        | 29.6                               | 7.2             | 19        | 24        | 29        | 35        | 40        | 45        | 50        |
| Music Investigation                      | 30.0                               | 7.1             | 19        | 24        | 30        | 35        | 41        | 46        | 50        |
| Music Styles and Composition             | 31.2                               | 7.3             | 19        | 25        | 31        | 36        | 42        | 46        | 50        |
| Outdoor and Environmental Studies        | 24.9                               | 6.8             | 15        | 19        | 24        | 29        | 35        | 42        | 50        |
| Philosophy                               | 30.0                               | 7.8             | 18        | 24        | 30        | 36        | 41        | 46        | 50        |
| Physical Education                       | 27.5                               | 7.1             | 17        | 22        | 27        | 32        | 38        | 44        | 50        |
| Physics                                  | 32.1                               | 7.3             | 21        | 26        | 32        | 38        | 42        | 47        | 50        |
| Psychology                               | 28.2                               | 7.3             | 17        | 23        | 28        | 33        | 39        | 45        | 50        |
| Religion and Society                     | 29.7                               | 7.3             | 19        | 24        | 30        | 35        | 40        | 45        | 50        |
| Sociology                                | 25.7                               | 7.5             | 14        | 19        | 25        | 31        | 37        | 44        | 50        |
| Studio Arts                              | 26.1                               | 7.2             | 15        | 20        | 25        | 31        | 37        | 43        | 50        |
| Systems Engineering                      | 24.4                               | 6.5             | 15        | 19        | 23        | 28        | 34        | 40        | 50        |
| Texts and Traditions                     | 30.4                               | 6.9             | 20        | 25        | 30        | 35        | 40        | 45        | 50        |
| Theatre Studies                          | 28.8                               | 7.4             | 18        | 24        | 29        | 35        | 40        | 45        | 50        |
| Visual Communication Design              | 26.9                               | 7.2             | 16        | 21        | 26        | 31        | 37        | 43        | 50        |
| <b>VCE VET:</b>                          |                                    |                 |           |           |           |           |           |           |           |
| VCE VET Business                         | 25.3                               | 7.0             | 14        | 19        | 24        | 29        | 35        | 42        | 50        |
| VCE VET Community Services               | 23.4                               | 6.7             | 13        | 17        | 22        | 27        | 33        | 40        | 50        |
| VCE VET Dance                            | 26.5                               | 6.5             | 20        | 23        | 27        | 31        | 35        | 41        | 50        |
| VCE VET Engineering Studies              | 24.7                               | 5.9             | 17        | 21        | 25        | 29        | 34        | 40        | 50        |
| VCE VET Equine Industry                  | 26.7                               | 6.5             | 15        | 20        | 25        | 31        | 37        | 43        | 50        |
| VCE VET Financial Services               | No candidates for scaling in 2013  |                 |           |           |           |           |           |           |           |
| VCE VET Furnishing                       | 24.0                               | 6.2             | 18        | 21        | 25        | 30        | 34        | 40        | 50        |
| VCE VET Hospitality                      | 25.4                               | 6.9             | 15        | 19        | 24        | 30        | 36        | 42        | 50        |
| VCE VET Hospitality – Kitchen Operations | 25.4                               | 6.4             | 16        | 20        | 24        | 29        | 35        | 41        | 50        |
| VCE VET Information Technology           | 24.6                               | 6.4             | 14        | 18        | 23        | 28        | 33        | 40        | 50        |
| VCE VET Integrated Technologies          | 23.1                               | 5.7             | 14        | 18        | 22        | 27        | 33        | 40        | 50        |
| VCE VET Interactive Digital Media        | 25.8                               | 6.5             | 17        | 21        | 25        | 30        | 35        | 41        | 50        |
| VCE VET Laboratory Skills                | 29.6                               | 6.6             | 18        | 24        | 31        | 37        | 43        | 47        | 50        |
| VCE VET Music                            | 25.8                               | 6.7             | 17        | 21        | 25        | 29        | 34        | 40        | 50        |
| VCE VET Sport and Recreation             | 24.1                               | 6.6             | 15        | 19        | 23        | 28        | 33        | 40        | 50        |
| VCE VET Technical Production             | 26.8                               | 6.5             | 18        | 22        | 26        | 31        | 36        | 41        | 50        |

**NOTES:**

1. Small Studies were not scaled by the automatic procedure, since their eligible scaling population was less than or equal to ten. The means and standard deviations are not given in these cases, since they are not as useful.
2. For small VCE Languages, the Language adjustment is the maximum of zero and the average Language adjustment over the previous three years. The following table gives the ATAR Subject Scores for small VCE Languages in 2013.

## Small VCE Languages - 2013 VTAC Scaled Study Scores

|                                |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|
| Small VCE Language Study Score | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
| 2013 VTAC Scaled Study Score   | 1.0  | 2.0  | 3.1  | 4.3  | 5.5  | 6.7  | 7.9  | 9.2  | 10.4 | 11.7 |
| Small VCE Language Study Score | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
| 2013 VTAC Scaled Study Score   | 13.0 | 14.3 | 15.5 | 16.8 | 18.1 | 19.3 | 20.6 | 21.8 | 23.0 | 24.2 |
| Small VCE Language Study Score | 21   | 22   | 23   | 24   | 25   | 26   | 27   | 28   | 29   | 30   |
| 2013 VTAC Scaled Study Score   | 25.4 | 26.6 | 27.8 | 28.9 | 30.1 | 31.2 | 32.3 | 33.4 | 34.4 | 35.4 |
| Small VCE Language Study Score | 31   | 32   | 33   | 34   | 35   | 36   | 37   | 38   | 39   | 40   |
| 2013 VTAC Scaled Study Score   | 36.4 | 37.4 | 38.4 | 39.3 | 40.3 | 41.1 | 42.0 | 42.9 | 43.7 | 44.5 |
| Small VCE Language Study Score | 41   | 42   | 43   | 44   | 45   | 46   | 47   | 48   | 49   | 50   |
| 2013 VTAC Scaled Study Score   | 45.3 | 46.1 | 46.8 | 47.5 | 48.2 | 48.8 | 49.4 | 50.0 | 50.5 | 50.9 |

### 2013 Scaled Aggregate Table

Based on the 2013 scaling and aggregation process, the following table gives an indication of the minimum scaled aggregate required to achieve at least a particular ATAR. The table can be used to check roughly an ATAR calculation.

| ATAR  | Min Scaled Aggregate for<br>ATAR |
|-------|----------------------------------|
| 40.00 | 91.3                             |
| 45.00 | 96.7                             |
| 50.00 | 102.6                            |
| 55.00 | 108.5                            |
| 60.00 | 114.6                            |
| 62.00 | 117.0                            |
| 64.00 | 119.5                            |
| 65.00 | 120.8                            |
| 66.00 | 122.1                            |
| 68.00 | 124.6                            |
| 70.00 | 127.2                            |
| 72.00 | 129.8                            |
| 74.00 | 132.4                            |
| 75.00 | 133.9                            |
| 76.00 | 135.2                            |
| 78.00 | 138.2                            |
| 80.00 | 141.2                            |
| 82.00 | 144.1                            |
| 84.00 | 147.4                            |
| 85.00 | 149.3                            |
| 86.00 | 151.4                            |
| 88.00 | 155.4                            |
| 90.00 | 159.8                            |
| 91.00 | 162.3                            |
| 92.00 | 164.6                            |
| 93.00 | 167.3                            |
| 94.00 | 170.1                            |
| 95.00 | 173.3                            |
| 96.00 | 176.8                            |
| 97.00 | 181.0                            |
| 97.50 | 183.4                            |
| 98.00 | 186.0                            |
| 98.50 | 189.6                            |
| 99.00 | 193.8                            |
| 99.25 | 196.4                            |
| 99.50 | 199.8                            |
| 99.60 | 201.2                            |
| 99.70 | 203.2                            |
| 99.80 | 205.3                            |
| 99.90 | 208.2                            |