

APPENDIX A

**CODING SYSTEM USED FOR THE CLASSIFICATION OF SCIENTIFIC AND
TECHNOLOGICAL QUALIFICATIONS.**

Code

The preparation of the codebook was commissioned by the National Board for Science and Technology and was carried out by the Department of Industrial Engineering, University College, Galway. A three-digit coding system was used, structured as follows:

The First Digit

This digit represents the main branch of Science or Technology as follows:

- 1 & 2. Engineering (excluding computer engineering).
3. Natural Sciences.
4. Social Sciences.
5. Agricultural Sciences.
6. Medical Sciences.
7. Computer Science & Computer Engineering.
8. Multiple Qualifications at same level in different main branches.

The Second Digit

The second digit is used to subdivide the main branch into its specific fields. In the Natural Sciences branch the fields are very numerous so related fields have been grouped together.

The Third Digit

The third digit is used to classify qualifications into main levels. After various consultations seven levels were identified:

1. Doctorate Degrees.
Ph.D. Degrees.
2. Masters Degrees.
3. Post-graduate non-degree awards.
This level includes various conversion courses and post-graduate diplomas.
4. Primary Degrees or Equivalent.
- an example of equivalence would be corporate membership of a professional institution.
5. Higher Technician Qualifications.
- the majority of these are awarded on completion of three year courses. This level includes National Diplomas and Department of Education Higher Technological Certificates.
6. Technician Qualifications.
- the majority of these are awarded on completion of two year courses. This level includes National Certificates, City & Guilds Part III. Full technological certificate and Department of Education Advanced Technological Certificate.

7. **Lower Technician Qualifications.**
This level includes N.C.E.A. One Year Certificates, Department of Education Elementary and Intermediate Technological Certificates and City & Guilds Certificates Parts I and II.
8. **Level Unspecified.**

Coding Procedures:

Basically, the code caters for one qualification per person. In the case of multiple qualifications, the highest level of qualification held should be coded. Special provision has been made for multiple qualifications at the same level:

- (i) **Multiple Qualifications under different main branches.**
This is catered for under a separate "main branch" identifiable when the first digit is 8.
- (ii) **Multiple Qualifications under same main branch.**
These are catered for within the main branch itself e.g. in Engineering, two primary degrees would go under Field Specified Section.

In the case of foreign qualifications levels had to be estimated in some instances.

The Fields Separately Coded

The fields separately identified in the coding system (first 2 digits) were as follows:-

Engineering

10. **Architecture and Town Planning.**
11. **Civil Engineering.**
12. **Surveying.**
13. **Electrical Engineering.**
14. **Electronic Engineering.**
15. **Mechanical Engineering.**
16. **Production/Industrial Engineering.**
17. **Mechanical and Electrical Engineering.**
18. **Agricultural Engineering.**
19. **Chemical Engineering.**
20. **Engineering - field or fields specified.**
21. **Engineering - field unspecified.**

Natural Sciences

30. **Biological Sciences i.e. Botany, Microbiology, Physiology, Zoology, Anatomy, Industrial Microbiology, Environmental Sciences, Genetics, Biology, Aquatic Biology, Aquaculture, Applied Biology.**
31. **Biochemistry (including Biotechnology).**

32. Chemistry (including Analytical Chemistry, Chemical Technology, Industrial Chemistry, Polymer Science, Applied Chemistry).
33. Earth Sciences i.e. Applied Geophysics, Geology, Oceanography, Mining Geology, Mineral Engineering, Mineral Processing, Mineral Surveying, Mineral Science.
34. Physics (including Experimental Physics, Atmospheric Physics, Applied Physics, Applied Electronics, Instrument Physics).
35. Mathematical Sciences i.e. Mathematical Science, Theoretical Physics, Mathematical Physics, Applied Mathematics, Numerical Analysis, Functional Analysis, Statistics, Mathematics.
36. A combination of Biological Sciences and Physical Sciences. Where Biological Sciences are as defined above and Biochemistry and Physical Sciences were defined as Physics and Chemistry.
37. A combination of Physical Sciences and Mathematical Sciences. Where Mathematical Science are as defined above.
38. Other Sciences with field unspecified but not included in the above categories e.g. Food Sciences. This category also caters for multiple qualifications at the same level in different branches of Natural Sciences.
39. Other Sciences with field unspecified.

Social Sciences including Economics

41. Social Science and Sociology.
42. Commerce including Economics and Business.
43. Politics.
44. Psychology.
45. Other Social Sciences i.e. Anthropology, Legal Sciences, Archaeology, Linguistics, Demography, Judicial Science, Criminology.

Agricultural Sciences

51. General Agriculture.
52. Veterinary Medicine and Science.
53. Dairy Science.
54. Horticulture.
55. Forestry.

Medicine

61. General Medicine, Surgery and Obstetrics.
62. Pharmacy and Pharmacology.
63. Dentistry.
64. Medical Laboratory Sciences.
65. Other disciplines related to medicine (fields specified).

Computer Science and Computer Engineering

70. Computer science and computer engineering.

Multiple Qualification at same level in different main branches

80. Multiple qualification at same level in different main branches.