



## Queensland University of Technology

### Submission on the Australian and New Zealand Standard Research Classification Review 2019

Queensland University of Technology (QUT) welcomes the opportunity to provide a response to the **Australian and New Zealand Standard Research Classification Review 2019**.

Please find QUT's response to submission questions below.

#### **ANZSRC Principles**

**1. Are the principles of the Review outlined in Section 2 of the Discussion Paper appropriate and sufficient? Do any further overarching principles need to be considered in developing the revised ANZSRC?**

The ANZSRC principles of the Review outlined in Section 2 of the Discussion Paper are appropriate. It is important that all R&D activity has a code or, in the case of multi-disciplinary research, a combination of codes. Appropriate and sufficient codes are required to be both a) transparent and b) mutually exclusive to ensure consistent assignment by users.

Consistency across the framework, the framework elements and application of the framework is crucial to achieving the objective of statistical feasibility. For example, in the FoR codes, the 2-digit Division level relates to broad research disciplines except for FoR 10 Technology, which includes the diverse Groups of *1006 Computer Hardware* and *1004 Medical Biotechnology*.

Similarly, at the 4-digit Group level, in both FoR and SEO codes, the XX99 codes predominately have one "not elsewhere classified" field. If "not elsewhere classified" fields are to remain in the framework then they should be located consistently throughout.

#### **ANZSRC Classifications**

##### **Type of Activity**

**2. What suggestions do you have to improve the ToA component of the classification?**

Research activity is not always as distinct as the categories suggest. In practice it is often difficult to classify research into these four categories. The focus of a research project may change during the research project's lifecycle, meaning that the selection of a ToA is dependent, often arbitrarily so, on the time at which it is classified. Thus, categories of research activity (and their associated percentage) may not always be captured nor accurately reported in a consistent manner.

**3. Are there any other categories that should be added to the ToA? If so, how would they be defined?**

QUT does not suggest the inclusion of additional categories. However, we do suggest that the location of translational research within the ToA be clarified.

**4. Is there ambiguity in the existing ToA categories? How could this be improved?**

While the ToA categories are well defined, the R&D activity itself is not always clearly defined across the project lifecycle. Hence, ambiguity in the existing ToA categories should be resolved by estimating the percentage of the prescribed research activity that falls into each ToA category, and classifying the research as existing within each category accordingly.

## **5. Should ANZSRC adopt the Frascati Manual 2015 ToA definitions?**

QUT supports the adoption of the simplified Frascati ToA. The three Frascati types of research are easy to understand and apply, and are therefore more likely to lead to accurate classifications of research.

### **Fields of Research**

## **6. Is the current overall structure appropriate?**

### **a. Should there be more or fewer levels to the hierarchy?**

The three-level hierarchy - consisting of 2-digit Divisions, 4-digit Groups and 6-digit Fields - provides the flexibility to meet a range of categorisations for reporting needs.

This framework assumes that the components in each level are comparable between and within their relevant classifications. This is not the case with FoR codes, where there is an uneven distribution across the hierarchy. For example, some Divisions have a small number of Groups and R&D activity, while others are much larger. An equitably horizontally distributed framework with higher within-level consistency would have increased utility and should be implemented where possible.

### **b. Would it be useful to have broad themes or 'one digit' classifications such as Sciences, Medicine, Social Sciences and Humanities, similar to the 'Sector' level of SEO?**

QUT supports the introduction of broad themes and suggests that this be implemented as an alpha category, similar to the Sectors in SEO classification system, allowing FoR codes to retain their current numbering and enabling easier historical analysis.

The use of broad themes has positive implications for reporting, enabling analysis of the concentration of R&D activity across broad discipline groups rather than the 22 Division level FoR codes.

Currently, some FoR codes are clearly grouped with similar codes, while there are other codes (such as FoR 17 *Psychology* and FoR 09 *Engineering*) where alignment to a single broad theme is more contentious.

## **7. What criteria, in your view, should be applied to determine the classification of research?**

### **a. What criteria should be applied to determine the boundaries between Division, Group and Field classifications?**

The current criteria state that classifications should be relevant to R&D conducted by businesses, universities and national research institutions. It is important that the current major areas of research relevant to universities are included in the framework. As reporting tends to occur at a 2-digit Division or 4-digit Group level, this cannot be at the 6-digit Field level. However, it may not be necessary for every broad area of research in the university sector to be assigned its own Division and those with only a few Groups should be reviewed to improve consistency in the framework.

It is also important that what is defined as a Group in one Division is comparable to a Group in another Division.

Previous updates to the classification have been based on R&D activity and this would seem appropriate in determining the boundaries within the hierarchy. While research income and

expenditure can be useful in science-based disciplines, publication information can be used more broadly to help identify R&D activity in universities and therefore justify changes to Groups within Divisions.

**b. Should research methodologies, publication practices, or any other factors be considered as key criteria for classifying research?**

The current Nature and Purpose of the FoR classification states:

“The ANZSRC FoR allows R&D activity to be categorised according to the methodology used in the R&D, rather than the activity of the unit performing the R&D or the purpose of the R&D.”

This statement assumes a link between a methodology and a FoR Division, one which is neither exclusive nor exhaustive and therefore of limited use as a criteria for classifying research. This should be revised and strengthening the current classification criteria to “research theories and methodologies” would rectify this issue.

Publication practices and research methodologies are shared across disciplines and therefore not necessarily a useful distinguishing factor, which limits their efficacy as key classification criteria.

**c. Apart from the Principles described in Section 2, are there any other specific criteria that should be applied?**

Consistency across the classification is important. The assignment of disciplines as Divisions, Groups or Fields should be uniform across the framework. A Field discipline in one Division should not be equivalent to a Group discipline in another Division.

**8. Where should the classifications change (at the Division, Group or Field level)? Please identify specific codes, where appropriate. In particular:**

**a. What new or emerging areas of research should be allocated FoR codes (and at which level)?**

Appendix A includes the details of QUT’s proposed 6-digit Field level codes across the classification.

Research in the Division FoR *08 Information and Computing Science* has seen considerable changes over the last decade and is in need of a comprehensive review by discipline experts to update existing codes and accommodate new and emerging fields. Similar advances in technology have also impacted on FoR *09 Engineering* where additional Groups and Fields are likely to be required.

**b. Should any of the existing FoR codes be split, deleted or merged?**

We recommend FoR *11 Medical and Health Sciences* be split into two new 2-digit Division codes. In terms of university R&D, this Division attracts significant research income and generates a high volume of publications. The split used in the ARC’s Engagement and Impact Assessment 2018 (of Biomedical & Clinical Sciences and Public & Allied Health Sciences) is a reasonable starting point for consideration. This Division split will require existing Groups needs to be reviewed such as *1113 Ophthalmology and Optometry*, which would sit across the two new Divisions.

The Group *1103 - Clinical Science* also needs to be reviewed and split, it is currently too large and diverse to be useful as a classification code. It is one of the only Groups in the framework that requires 6-digit Field codes to provide discipline information.

Division 10 - Technology has a number of varied Groups, some of which would appear to align more logically with other Divisions. For example, Group *1004 Medical Biotechnology* would sit more naturally with Division FoR *11 Medical and Health Sciences*. Other Groups such as *1003 Industrial Biotechnology* and *1007 Nanotechnology* are more multidisciplinary in nature and do not necessarily align with an established discipline.

The unevenness in the hierarchy in terms of the number of groups that sit under a Division and the overall size of a Division in terms of its R&D activity should be reviewed to ensure consistency in the framework.

**c. Should any of the existing Group or Field codes be moved to other places in the classification?**

Appendix A includes details of proposed movement of codes in the classification.

Groups in FoR 10 should be moved to align with their relevant disciplines. We suggest the Fields in the Group *1605 Policy and Administration* be moved to their discipline Group (for example *160513 Tourism Policy* be moved to Group *1506 Tourism*). In a university context, policy is more commonly researched by discipline experts.

The Group *1903 Journalism and Professional Writing* needs to be reviewed. We recommend *190301 Journalism Studies* move to Group *2001 Communication and Media Studies* and consideration be given to bringing professional, technical and creative writing together.

We recommend that actual disciplines that sit in the 99 codes, such as *029903 Medical Physics* from Group *0299 Other Physical Sciences*, be moved to sit under a Group whenever possible. We recommend only one “not elsewhere classified” field should reside in each 99 code.

**d. Is there ambiguity or redundancy in the existing FoR codes? (e.g. areas where research could reasonably be classified in two or more different codes)**

The Group *0604 Genetics* sits in the Division of Biological Science but *110311 Medical Genetics*, *111203 Cancer Genetics* and *100401 Gene and Molecular Therapy* sit elsewhere in the framework with other genetics codes associated with animals and plants. Genetics is an area with considerable R&D activity so ensuring that it is unambiguously classified is important.

In considering how multidisciplinary research should be classified, it is worth considering whether Field codes such as *111203 Cancer Genetics* should be removed and a combination of *1112* and *0604* codes be used instead.

We question the need for the Field code *150302 Business Information Systems*, and whether that R&D is distinguishable from the Fields in Group *0806 Information Systems*.

The codes *091302 Automation and Control Engineering*, *090602 Control Systems, Robotics and Automation* and *010203 Calculus of Variations, Systems Theory and Control Theory* are often misused. Without reference to the ABS code exclusion notes these could be viewed as having some ambiguity.

In general, there is often blurring at the discipline edges, for example between mathematics, physics, chemistry and engineering, as seen in the journals which cover these disciplines. Ensuring that all R&D activity has a single code or can be described by a selection of codes is a major challenge across the framework.

**e. Where changes are proposed, please explain why the changes are necessary and what criteria you have used to determine the need for change.**

Appendix A includes information on requested code changes, code name changes, codes to be moved and codes to be added.

**9. How can the FoR codes better capture Aboriginal and Torres Strait Islander Studies, Māori Studies, and Pacific Peoples Studies research, and at what level (e.g. Field, Group, Division)?**

Currently the FoR codes for Aboriginal and Torres Strait Islander Studies, Māori Studies, and Pacific Peoples Studies research are at a 6-digit Field level and are consequently invisible at a typical reporting level (Division or Group level). There is strong support for rectifying this. This could either be achieved through a new 2-digit Division or 4-digit Groups.

We are aware that the NATSIHEC submission is recommending a new 4-digit Group to bring together Aboriginal and Torres Strait Islander Studies research, which would sit in Division FoR 16 *Studies in Human Society*. Fields in this group would be similar to existing Fields in the framework (for example 180101 *Aboriginal and Torres Strait Islander Law*), but would be brought together under one 4-digit Group. We support this recommendation.

Consideration should also be given to a new 2-digit Division, under which 4-digit Groups could be created to distinguish between areas of study (for example, Aboriginal and Torres Strait Islander Health and Aboriginal and Torres Strait Islander Education). This would allow for more granular reporting. While determining the 6-digit Field codes for some of these Groups may be more complex, it is achievable and beneficial.

**10. How can the FoR codes better capture interdisciplinary/multidisciplinary research, and at what level (e.g. Field, Group, Division)?**

FoR codes are predominately discipline-based, and therefore recording multidisciplinary research requires selecting appropriate FoR codes from different Groups for a project or research output and applying a percentage to each code.

It would be possible to combine codes to show research activity is multidisciplinary. For example, a Physics and Maths project might be combined at a Division level to 01-02 and this could be extended to Groups creating eight digit codes. This change requires adjustments in the framework to allow varied code lengths and re-conceptualising how R&D activity is reported.

At a 6-digit field level, some established multidisciplinary research areas are already captured, for example; 010202 *Biological Mathematics*, 160809 *Sociology of Education* and 140208 *Health Economics*. The framework currently only records them under one discipline, as required by the mutually exclusive objective. This is not particularly useful in identifying multidisciplinary research, as these multidisciplinary codes are not used consistently across the framework and the 6-digit Field level codes are often invisible in reporting.

**Socio-economic Objective**

**11. Is the current overall structure appropriate?**

**a. Should there be more or fewer levels to the hierarchy?**

The Division, Group and Objective hierarchy levels are appropriate. They align with the FoR code structure and allow a range of categorisation and reporting to occur.

It is unclear how useful the Sector level is in the hierarchy given the uneven distribution of codes that sit below each Sector.

**b. Would it be desirable to change the Sector codes to numerical, rather than alphabetic, identifiers?**

The current uneven distribution of Division codes under each Sector limits their use in higher education. A change to numeric Sector codes would necessitate change in a large number of the SEO codes at the Division, Group and Objective level. It is not clear how beneficial this would be given the amount of work required to achieve this change.

**12. Are the Sector level categories well defined enough to capture all types of socio-economic objectives?**

**a. Do you have specific feedback on the usability and interpretability of the current Sector categories?**

Currently Sector C: Society, includes *92 Health*. Given the amount of R&D activity in Health, it is unclear how useful it is to be in a group with Education, Law and Cultural Understanding, particularly when *8608 Human Pharmaceutical Products* sits under the Group Manufacturing in Sector B: Economic Development.

**13. Do the Division level categories appropriately capture all types of research objectives?**

**a. Do you have specific feedback on the usability and interpretability of the current Division categories?**

Division *97 Expanding Knowledge* is often selected by university researchers to classify R&D as it aligns with the more familiar FoR codes. The names of the Divisions are clear and the Groups below them reasonably intuitive. The exception to this rule is Division *86 Manufacturing*, which houses a diverse range of groups.

**b. Are there emerging areas of economic development that should be better defined?**

Bioproducts and biomass are growing areas of R&D that need to be reviewed in the current classification.

Additionally, the application of research to Big Data requires consideration, as well as the more broadly intersecting area of technology and society that has emerged over the last decade.

**14. Should any of the existing SEO codes be split, deleted or merged?**

**a. Where changes are proposed, please explain why the changes are necessary and what criteria you have used to determine the need for change.**

We recommend reviewing Division *86 Manufacturing*, as it contains a wide range of Groups that would not necessarily be viewed generally as Manufacturing.

We recommend that actual disciplines that sit in the 99 codes, such as *939903 Equity and Access to Education*, be moved to sit in a Group. Whenever possible, only one "not elsewhere classified" Objective should sit in each 99 code.

**15. Is it easy or difficult to categorise large or complex research projects or programs under SEO? How could categorisation be simplified?**

This depends when the SEO classification is being selected. For a complex project with a long timeframe, it may not always be clear at application stage exactly how the research will be used. Therefore, classification codes selected at the end of the project may differ from those selected at the beginning.

The ability to select multiple percentage-weighted codes provides flexibility in categorising large or complex research projects or programs under SEO. The level of flexibility does depend on the number of codes used and whether they are at a Division, Group or Objective level.

**Implementation**

**16. How do you (or your organisation) currently use ANZSRC?**

QUT's use of FoR codes is one of our methods of categorising research projects, research outputs, HDR students and our researchers.

Our organisation generally only uses SEO codes for research projects and to assist with classifying research impact.

Assignment of the ANZSRC codes is typically done to meet external reporting requirements such as research expenditure for the Australian Bureau of Statistics and the ERA and EI submissions for the Australian Research Council. Internal reporting tends to be based on faculty and school's activity rather than ANZSRC.

**17. How would you (or your organisation) be affected if ANZSRC changes?**

Changes to the ANZSRC would require QUT to update research database codes, ePrints repository and classification of current research activity such as projects and research outputs. If the ERA assessment is held in 2021, QUT would need to recode the 2014-2016 outputs that were submitted for ERA 2018 and assign the new codes to projects active in the reference period.

However, given that a comprehensive review of ERA elements takes place pre-submission, recoding would be achievable so long as QUT is given sufficient preparation time between the release of the final version of the FoR codes and the ERA submission date. An updated version of the FoR codes that addresses anomalies and problems in the current version would make the recoding exercise worthwhile.

**18. What support do you need to implement ANZSRC (e.g. concordances for time-series mapping, coding tools etc.)?**

Access to concordance tables mapping old and new FoR and SEO codes and FoR and FoE codes would be of great benefit.

The ABS document 1297, dated 2008, contains useful information about specific exclusions and suggestions of other codes for Groups and Fields. A similar document available for the new codes would assist implementation. Ideally, the names of the new Groups and Fields should be transparent enough to make this helpful, rather than essential reading.

**19. How frequently should the ANZSRC be updated in the future? What advantages or disadvantages would there be if, in future, ANZSRC was updated dynamically and on an ongoing basis in response to stakeholder feedback?**

In Australia most reporting is carried out at the 2 and 4-digit level. Ideally, Divisions and Groups should be consistent between the 5-year minor review and 10-year major review. Dynamic changes to the Divisions and Groups would be problematic for reporting and assessment purposes.

Additions at the 6 digit level would allow for new disciplines to be identified earlier. This use of Field level codes in Australia tends to occur mainly with ARC and NHMRC classification of projects and assessors/reviewers. If there is a significant assignment of a 99 code, it may indicate a review of the 6-digit codes is necessary and additional Field level codes could be added as required without disrupting reporting.

A dynamic code system would require all organisations to keep their databases up to date and communicate changes to users. There are concerns that this may not be achievable throughout the sector.

QUT therefore recommends that the codes are reviewed and updated every five years.



## Appendix A - FoR and SEO Details

Level	FoR Code	FoR Descriptor	Relevant Section	Requested Action	Details	Justification
<b>FOR 01</b>						
Field	010207	Theoretical and Applied Mechanics	Group : 0102	Rename	Suggested Name: Mathematical Solid and Fluid Mechanics, Heat and Mass Transfer	The rename would help to resolve some of the ambiguity around fluid mechanics and heat and mass transfer in the Group 0102 Applied Mathematics
Field	new	Computational Statistics	Group : 0104	Add	Add new 6-digit Field to Group : 0104 Statistics	Areas of statistics not currently covered by the Fields in Group 0104 Statistics
Field	new	Time Series/Spatial Modelling	Group : 0104	Add	Add new 6-digit Field to Group : 0104 Statistics	Areas of statistics not currently covered by the Fields in Group 0104 Statistics
Field	new	Data Science	Group : 0104	Add	Add new 6-digit Field to Group : 0104 Statistics	Research area that has emerged over the past decade. There has been discussion about where it should sit in the framework
<b>FOR 02</b>						
Field	029901	Biological Physics	Division : 02	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	029902	Complex Physical Systems	Division : 02	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	029903	Medical Physics	Division : 02	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	029904	Synchrotrons; Accelerators; Instruments and Techniques	Division : 02	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
<b>FOR 03</b>						
Field	030606	Structural Chemistry and Spectroscopy	Group : 0306	Rename	Move Field to Group 0302	Move from Group: 0306 Physical Chemistry to Group: 0302 Inorganic Chemistry and Rename this code "Photochemistry and Spectroscopy". Other feedback has been that "Photochemistry" needs to added as a Field but could sit in various Groups
Field	030703	Reaction Kinetics and Dynamics	Group : 0306	Move	Move Field to Group : 0306 Physical Chemistry	Request by discipline group for this change to be considered
Field	039901	Environmental Chemistry (incl. Atmospheric Chemistry)	Division : 03	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	039902	Forensic Chemistry	Division : 03	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	039903	Industrial Chemistry	Division : 03	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	039904	Organometallic Chemistry	Division : 03	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	new	Thermal Analysis	Group : 0301	Add	Add new 6-digit Field to Group : 0301 Analytical Chemistry	Request by discipline group for this new code to be considered
Field	new	Microscopy and Surface Analysis	Group : 0301	Add	Add new 6-digit Field to Group : 0301 Analytical Chemistry	Request by discipline group for this new code to be considered
Field	new	Metal Cluster Chemistry	Group : 0302	Add	Add new 6-digit Field to Group : 0302 Inorganic Chemistry	Request by discipline group for this new code to be considered

Field	new	Inorganic Materials (incl Nanomaterials)	Group : 0302	Add	Add new 6-digit Field to Group : 0302 Inorganic Chemistry	Request by discipline group for this new code to be considered
Field	new	Metal Organic Framework	Group : 0302	Add	Add new 6-digit Field to Group : 0302 Inorganic Chemistry	Feedback from discipline group that this code is too broad, and whether structural dynamics, blast analysis or timber engineering require their own Field code
Field	new	Molecular Modelling	Group : 0307	Add	Add new 6-digit Field to Group : 0302 Inorganic Chemistry	Request by discipline group for this change to be considered

#### FOR 04

Group	040200	Geochemistry	Group : 0402	Review	Field level codes 040202-040204 very broad	Suggest a review of the 6-digit Field codes in this group to confirm they are fit-for-purpose and distinct from codes in Division 3 Chemical Sciences
Field	040303	Geochronology	Group : 0403	Review	Confirm it is located in the correct Group	This code could sit under either Group 0403 Geology or 0402 Geochemistry
Field	040307	Ore Deposit Petrology	Group : 0403	Rename	Change to 'Ore Deposit Geology'	Ore deposit research is not just petrology so this would be more encompassing
Field	new	Petrophysics / Rock Mechanics	Division: 04	Add	Emerging area of research	Currently research in this area tends to be classified under an Engineering code but it would be useful to have this Field code under either 0404 Geophysics or 0403 Geology

#### FOR 06

Group	0604	Genetics	Group: 0604	Review	Genetics codes in various Groups and Divisions	Suggest a review of genetics codes in the classification to ensure this important area of R&D is being captured effectively
Field	069901	Forensic Biology	Division : 06	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	069902	Global Change Biology	Division : 06	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group

#### FOR 07

Field	079901	Agricultural Hydrology (Drainage, Flooding, Irrigation, Quality, etc)	Division : 07	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	079902	Fertilisers and Agrochemicals (Application etc.)	Division : 07	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group

#### FOR 08

Division	080000	Information and Computing Sciences	Division : 08	Review	Groups and Fields in this Division need to reviewed	This Division has seen significant changes in the past decade with new areas of R&D and changes in terminology. It requires a comprehensive review by discipline experts
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#### FOR 09

Field	090506	Structural Engineering	Group: 0905	Review	Broad area of research for a Field level code	Request by discipline group for this to be reviewed and whether structural dynamics, blast analysis and timber engineering which are part of this Field need their own Field.
Group	090600	Electrical and Electronic Engineering	Group : 0906	Review	The Field codes in this Group need reviewed	This is an area which has been changed by technology in the past decade and may need to be split and re-organised

Field	090607	Power and Energy Systems Engineering (excl. Renewable Power)	Group : 0906	Review	Broad area of research for a Field level code	Request by discipline group to review wording of this Field
Field	090608	Renewable Power and Energy Systems Engineering (excl. Solar Cells)	Group : 0906	Review	Broad area of research for a Field level code	Request by discipline group to review wording of this Field
Group	090700	Environmental Engineering	Group : 0907	Review	Field level codes are very broad	This discipline has developed over the past decade and needs to be reviewed. The Field code 090508 Water Quality Engineering may sit better in this Group
Group	091500	Interdisciplinary Engineering	Group : 0907	Review	Fields need to revised and some re-grouped	Current Fields are a mix of disciplines and also theories that are applicable across engineering disciplines. This needs to be reviewed with some Fields moved and the Group renamed
Field	099901	Agricultural Engineering	Division : 09	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	099902	Engineering Instrumentation	Division : 09	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	new	Electric Vehicles	Group : 0902	Add	Add new 6-digit Field to Group : 0902 Automotive Engineering	New area of research
Field	new	Climate Change Adaption	Group : 0905	Add	Add a Field level code reflecting the research in climate change adaption to Group 0905: Civil Engineering	Request by discipline group for this change to be considered
Field	new	Climate Change Adaption	Group : 0907	Add	Add a Field level code reflecting the research in climate change adaption to Group 0907: Environmental Engineering	Request by discipline group for this change to be considered
Field	new	Biofabrication	Group : 0903	Add	Add new 6-digit Field to 0903 - Biomedical Engineering	Rapidly expanding research area, particularly in Australia which is distinct from 090301- Biomaterials,
Field	new	Mechanical Engineering Asset Management	Group : 0913	Add	Add new 6-digit Field to Group : 0913 Mechanical Engineering	There is a Field 090505 Infrastructure Engineering and Asset Management but there is a request to have a related field in 0913
Field	new	Power Electronics	Group : 0906	Add	Add new 6-digit Field to Group : 0906 Electrical and Electronic Engineering	Emerging area of research

#### FOR 10

Group	100400	Medical Biotechnology	Group : 1004	Move	Move Group - 1004 to sit in Division 11	Group 1004 aligns with Division 11 and would ensure all medical and health related research is easily identified.
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#### FOR 11

Division	110000	Medical and Health Sciences	Division : 11	Split	Division needs to be split	Large Division in terms of university R&D, which would benefit from being split and re-grouped
Group	110300	Clinical Sciences	Group : 1103	Split	Fields need to re-grouped	The 24 fields appearing in 1103 are too disparate and need to be re-classified

#### FOR 12

Field	new	Urban Informatics	Group : 1205	Add	Add new 6-digit Field to 1205 - Regional and Urban Planning	An emerging area within urban planning. It's multi-disciplinary approach may mean in a revised framework it could sit in another section
Field	new	Urban Planning and Health	Group : 1205	Add	Add new 6-digit Field to 1205 - Regional and Urban Planning	An emerging area within urban planning

#### FOR 13

Field	130312	Special Education and Disability	Group : 1303	Rename	Suggested Name: Inclusive or Special Education	The term 'disability' is no longer used in the education discipline
Field	new	Alternative Education	Group : 1301	Add	Add new 6-digit Field to Group : 1301 Education Systems	This is needed to cover research in home schooling, distance education, etc.
Field	new	Work Integrated Learning (including Internships)	Group : 1303	Add	Add new 6-digit Field to Group : 1303 Specialist Studies in Education	Emerging area of research not currently covered

#### FOR 14

Field	140204	Economics of Education	Group : 1303	Move	Move Field connected with Education to 1303 : Specialist Studies in Education	Request by discipline group to consider whether this Field could be moved to Group 1303 Specialist Studies in Education
Field	149901	Comparative Economic Systems	Division : 14	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	149902	Ecological Economics	Division : 14	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	149903	Heterodox Economics	Division : 14	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group

#### FOR 15

Field	new	Not-for-Profit and Volunteering	Group : 1503	Add	Add new 6-digit Field to 15 - Commerce, Management and Tourism Services	Recognising the growing importance of Third Sector Research. This increases the size of Group 1503, which is quite diverse and may need to be reviewed.
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#### FOR 16

Field	160203	Courts and Sentencing	Group : 1602	Rename	Suggested Name: Sentencing and Penalties	Request by discipline group for this change to be considered
Field	160205	Police Administration, Procedures and Practice	Group : 1602	Rename	Suggested Name: Policing	This may then include both code 160205 and 160206 Private Policing and Security Services
Group	160500	Policy and Administration	Group: 1605	Remove	Move fields to discipline Groups	Request to move Policy Field level codes to their relevant disciplines
Field	160501	Aboriginal and Torres Strait Islander Policy	Division : 16	Move	Move to new ATSI code	Move code to relevant discipline Group
Field	160502	Arts and Cultural Policy		Move & Split	Move to Division 19 Studies in Creative Arts and Writing and Group 2002 Cultural Studies	Move code to relevant discipline Group in Division 19 and Group 2002
Field	160503	Communications and Media Policy	Group : 2001	Move	Move to Group - 2001 Communication and Media Studies	Move code to relevant discipline Group 2001
Field	160504	Crime Policy	Group : 1602	Move	Move to Group - 1602 Criminology	Move code to relevant discipline Group 1602

Field	160505	Economic Development Policy	Division : 14	Move	Move to Division - 14 Economics	Move code to relevant discipline Group in Division 14
Field	160506	Education Policy	Division : 13	Move	Move to Division - 13 Education	Move code to relevant discipline Group in Division 13
Field	160507	Environment Policy	Group : 0502	Move	Move to Group - 0502 Environmental Science and Management	Move code to relevant discipline Group 0502
Field	160508	Health Policy	Division : 11	Move	Move to Division - 11 Medical and Health Sciences	Move code to relevant discipline Group in Division 11
Field	160509	Public Administration	Group : 1503	Move	Move to Group - 1503 Business and Management	Move code to relevant discipline Group 1503
Field	160510	Public Policy	Division : 16	Move	Possibly Move to Group - 1606 Political Science	This looks to be the most relevant Group to move to but may require a rethink of 1606 Political Science
Field	160511	Research, Science and Technology Policy	Division : 16	Move	Possibly Move to Group - 1606 Political Science	This looks to be the most relevant Group to move to but may require a rethink of 1606 Political Science
Field	160512	Social Policy	Division: 16	Move	Move to Division - 16 Studies in Human Society	Move code to relevant discipline Group in Division 16
Field	160513	Tourism Policy	Group : 1506	Move	Move to Group - 1506 Tourism	Move code to relevant discipline Group 1506
Field	160514	Urban Policy	Group : 1205	Move	Move to Group - 1205 Urban and Regional Planning	Move code to relevant discipline Group 1205
Field	160809	Sociology of Education	Group : 1303	Move	Move Field connected with Education to 1303 : Specialist Studies in Education	Request by discipline group to consider whether this Field could be moved to Group 1303 Specialist Studies in Education
Field	169901	Gender Specific Studies	Division : 16	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	169902	Studies of Aboriginal and Torres Strait Islander Society	Division : 16	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	169903	Studies of Asian Society	Division : 16	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	169904	Studies of Maori Society	Division : 16	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	169905	Studies of Pacific Peoples' Societies	Division : 16	Move	Move Field disciplines out of the 99 codes	This field should be reviewed and if possible moved to a suitable Group
Field	new	Justice Studies	Group : 1602	Add	Add a Field level code to Group : 1602 Criminology	Currently the only code mentioning "justice" is in Division 22 Philosophy and Religious Studies, 220104 Human Rights and Justice Issues. Research into youth, digital and indigenous justice is not covered in the Group 1602 Criminology
Field	new	Environmental Criminology	Group : 1602	Add	Add new 6-digit Field to Group : 1602 Criminology	New area of research

**FOR 17**

Field	170103	Educational Psychology	Group : 1303	Move	Move Field connected with Education to 1303 : Specialist Studies in Education	Request by discipline group to consider whether this Field could be moved to Group 1303 Specialist Studies in Education
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**FOR 18**

Field	new	Health Law	Group : 1801	Add	Add a new 6-digit Field to Group : 1801	A new areas of law research
Field	new	Law and Technology	Group : 1801	Add	Add a new 6-digit Field to Group : 1801	A new areas of law research
Field	new	Environmental Law	Group : 1801	Add	Split existing Field code 180111 Environmental and Natural Resources Law	Recommend splitting the existing code 180111 Environmental and Natural Resources Law into two codes
Field	new	Natural Resources Law	Group : 1801	Add	Split existing Field code 180111 Environmental and Natural Resources Law	Recommend splitting the existing code 180111 Environmental and Natural Resources Law into two codes
Field	new	Public Law	Group : 1801	Add	Reduce Fields in Group : 1801 Law & Legal Studies with a broader Field code	Suggest Field codes such as 180108 Constitutional Law and 180103 Administrative Law, could be covered by this new Field code
Field	new	Private Law	Group : 1801	Add	Reduce Fields in Group : 1801 Law & Legal Studies with a broader Field code	Suggest Field codes such as 180107 Conflict of Laws (Private International Law), 180109 Corporations and Associations Law and 180112 Equity and Trusts Law, could be covered by this new Field code
Field	new	Law, Legal Practice and the Courts	Group : 1801	Add	Reduce Fields in Group : 1801 Law & Legal Studies with a broader Field code	Suggest Field codes such as 180102 Access to Justice, 180120 Legal Institutions (incl. Courts and Justice Systems) and 180121 Legal Practice, Lawyering and the Legal Profession, could be covered by this new Field code

**FOR 19**

Group	190300	Journalism and Professional Writing	Group : 1903	Rename	Group level : Writing	Journalism is seen as aligning with communication and media studies and bringing professional and creative writing together would seem more logical
Field	190301	Journalism Studies	Group : 1903	Move	Move Journalism Studies to a 6 digit code under 2001	Journalism is seen as aligning with communication and media studies rather than just writing
Field	190402	Creative Writing (incl. Playwriting)	Group : 1904	Move	Move to renamed 1903 Group-Writing	Bring writing disciplines together, if this occurs the Group: 1904 would need to be renamed.

**FOR 20**

Field	200401	Applied Linguistics and Educational Linguistics	Group : 1303	Move	Move Field connected with Education to 1303 : Specialist Studies in Education	Request by discipline group to consider whether this Field could be moved to Group 1303 Specialist Studies in Education
Field	new	Communication and Media Studies Methods	Group : 2001	Add	Add new 6-digit Field to 2001-Communication and Media Studies	Similar to other Groups which have a methodology field code e.g. 160807 this research area is seen an important addition
Field	new	Cultural and Creative Industries	Group : 2002	Add	Add new 6-digit Field to 2002 - Cultural Studies	Required to classify research on cultural productions and creative work.

**FOR 22**

Field	220202	History and Philosophy of Education	Group : 1303	Move	Move Field connected with Education to 1303 : Specialist Studies in Education	Request by discipline group to consider whether this Field could be moved to Group 1303 Specialist Studies in Education
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Level	FoR Code	FoR Descriptor	Requested Action	Details	Justification
Objective	829901	Forest Product Traceability and Quality Assurance	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	829902	Plant Product, Traceability and Quality Assurance (excl. Forest Products)	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	839901	Animal Welfare	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	839902	Fish Product Traceability and Quality Assurance	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	839903	Livestock Product Traceability and Quality Assurance	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	869901	Furniture	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	889901	Intermodal Materials Handling	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	889902	Multimodal Transport	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	889903	Pipeline Transport	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	889904	Postal and Package Services (incl. Courier Services)	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	909901	Hospitality Services	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	909902	Recreational Services	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	919901	Carbon and Emissions Trading	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	919902	Ecological Economics	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	939901	Aboriginal and Torres Strait Islander Education	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	939902	Education and Training Theory and Methodology	Move	Move defined Objectives out of the 99 codes	Move to Group 9302 Teaching and Instruction
Objective	939903	Equity and Access to Education	Move	Move defined Objectives out of the 99 codes	Move to Group 9301 Learner and Learning
Objective	939904	Gender Aspects of Education	Move	Move defined Objectives out of the 99 codes	Move to Group 9301 Learner and Learning
Objective	939905	Maori Education	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	939906	Pacific Peoples Education	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	939907	Special Needs Education	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	939908	Workforce Transition and Employment	Move	Move defined Objectives out of the 99 codes	Move to Group 9302 Teaching and Instruction

Objective	969901	Antarctic and Sub-Antarctic Oceanography	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	969902	Marine Oceanic Processes (excl. climate related)	Move	Move defined Objectives out of the 99 codes	Ideally only Objectives which contain "not elsewhere classified" should sit in the 99 codes
Objective	new	Production of Biochemicals and Biobased Products			Request by discipline group to add this code
Objective	new	Production of Biomaterials and Biocomposites			Request by discipline group to add this code
Objective	new	Building Structures			Request by discipline group to add this code
Objective	new	Creative Economy			Request by discipline group to add this code
Division	860000	Manufacturing	Split	Diverse range of Groups	Groups covers Dairy Products to Transport Equipment, not all would be considered 'Manufacturing' so a review of this Division is recommended