

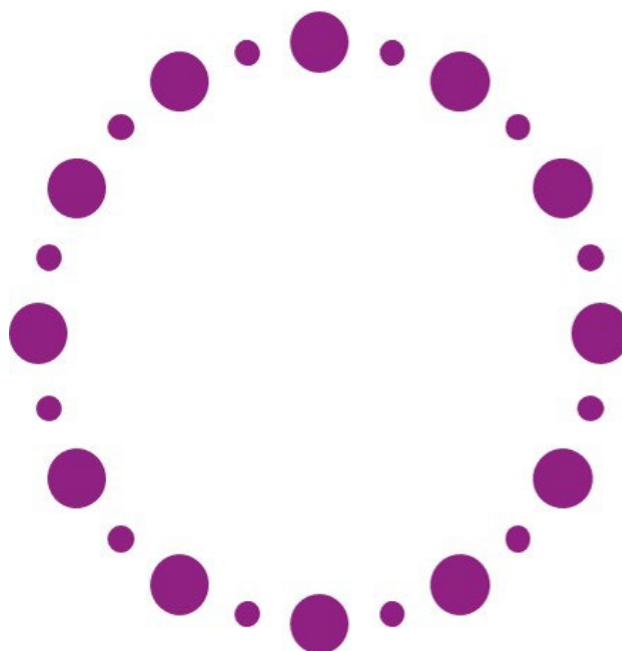
**census**  
2021



**Census 2021**

# **Student information paper**

25 May 2023



[nisra.gov.uk/Census2021](https://nisra.gov.uk/Census2021)

## Table of contents

1. Introduction.....	3
2. Enumeration phase .....	4
2.1. Inclusion of an area heavily populated by students in the 2019 Rehearsal .....	4
2.2. Student engagement .....	4
2.3. Change to the census questionnaire .....	5
2.4. Student halls (communal establishments) .....	6
2.5. Student administrative data .....	6
3. Data processing phase.....	7
3.1. Removal of false persons .....	7
3.2. Reconciling of multiple responses (RMR).....	8
3.3. Student moves process .....	9
4. Quality assurance.....	9

## 1. Introduction

A census usually takes place once every ten years and is the largest and most complex statistical exercise undertaken in Northern Ireland. Census statistics are a vital source of information and are widely used by government, public bodies, academia, commercial businesses and others to develop policies, allocate resources and help deliver services. The last census in Northern Ireland was taken on 21 March 2021.

Counting full-time tertiary level students in a census is challenging. For some students the issue of where to be counted is difficult for them to work out. This is because they may have “two” residences - a “term-time<sup>1</sup>” address and a “home<sup>2</sup>” address. For official population estimates, students are counted at their “term-time” address only. In some administrative systems, students may be recorded at their “home” address, in others they are recorded at their “term-time” address. The 2021 Census outputs are in line with the population estimates – students are referenced in key outputs to their “term-time” address.

Recent censuses in Northern Ireland have included questions and guidance to help students ensure that they are counted. To ensure that students were counted fully in Census 2021, NISRA decided that additional steps were needed. A key decision was to encourage students to make returns at their home and term-time addresses. This approach required a post-collection process to address any overcount/duplication.

Given the pandemic, these approaches have been invaluable to ensure as complete an enumeration as possible and that the final Census 2021 population estimates for Northern Ireland are accurate. This paper outlines the initiatives undertaken, both in the enumeration and data processing phases, to ensure that students were counted accurately.

---

<sup>1</sup> This is typically where the student lives while at college or university. This can be either a domestic property or a communal establishment (typically a university or private halls of residence).

<sup>2</sup> This is typically where the student lives with their parents/guardians – this typically is a domestic property usually significantly removed in distance from the college or university.

## 2. Enumeration phase

### 2.1. Inclusion of an area heavily populated by students in the 2019 Rehearsal

Census Office made an explicit choice to include an area in the 2019 Rehearsal that was heavily populated by students (Belfast – Holyland). This area was chosen to rehearse methods and approaches to ensure any issues could be addressed prior to the full census.

Student related outcomes of the rehearsal included:

- the decision to provide extra field staff in “student” areas, ensuring additional follow-up capacity was available;
- to include indirect references to students in TV advertisements (e.g. the first main backdrop of the census TV advertisement was the Belfast Metropolitan College); and
- a detailed student engagement plan with support from local universities and further education colleges.

### 2.2. Student engagement

Following the rehearsal, detailed engagement was undertaken with the local universities, where all local universities and further education colleges agreed to send an email to all students on their registers (e.g. the QUB email was sent to around 30,000 students). This email was sent in early March, in time to ensure students could make their response early – the online system also helped as students could make their response without having to wait for a paper questionnaire.

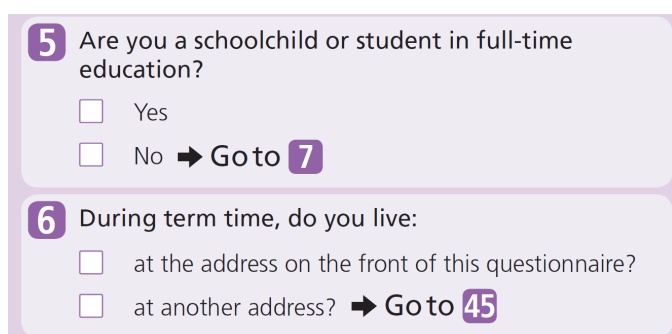
In addition, the email pointed to two videos for students, [a guidance video for students living in student halls \(communal establishments\)](#) and [a guidance video for students living in private households](#). Individual guidance for students was also given online in the help section of the [Northern Ireland Census website](#). The videos and website backed up the email and provided detailed information on the online system to support students.

### 2.3. Change to the census questionnaire

In the 2019 Rehearsal it was also recognised that it could be more effective to gather data on students from parents/guardians at their “home” address rather than routing them out of the questionnaire to be enumerated at their term-time address (as was the case for Census 2011). The rationale was that this would maximise the opportunities to capture students and they could then be “moved” to their “term-time” address in the data processing phase. This required a change on the census household questionnaire.

Figures 1 and 2 show how the relevant questions were amended to capture this information – this allowed parents/guardians to provide full details for students in their household. Importantly, and not shown below, the 2021 online system also captured the full term-time address at question 6.

**Figure 1: 2011 Census – Student questions**



5 Are you a schoolchild or student in full-time education?

Yes

No → Go to 7

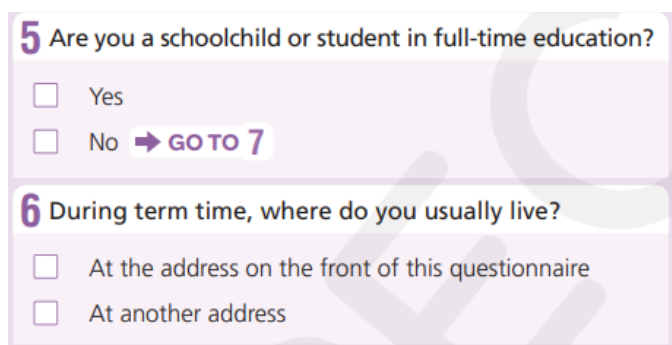
6 During term time, do you live:

at the address on the front of this questionnaire?

at another address? → Go to 45

(note ‘Go to 45’ filter on question 6 means details are not collected for students at their “home” address)

**Figure 2: 2021 Census – Student questions**



5 Are you a schoolchild or student in full-time education?

Yes

No → GO TO 7

6 During term time, where do you usually live?

At the address on the front of this questionnaire

At another address

(note the removal of the filter on question 6 to ensure details were collected for students at their “home” address)

## 2.4. Student halls (communal establishments)

One of the challenges of running any census is to collect returns from communal establishments (for students this means halls of residence). Historically there have been two separate types of census questionnaires for communal establishments:

- the Manager Form (CE4) – which in the 2011 Census gathered basic details for each establishment (number of residents, type of accommodation (student, health, military etc.));
- for each resident in the establishment an Individual Form (I4) – this form is similar to the individual element of the household form. This form collects the personal demographic details of each resident.

For the 2021 Census a new initiative was undertaken within the Manager Form. The new Manager Form included a section which required Managers to provide core demographic details of all the residents in their establishment (first name, last name, date of birth & sex). This is shown in Figure 3 for the paper Manager Form (CE4 2021).

**Figure 3: 2021 Census Manager Form – Resident listing element**



6 List the names, date of birth and sex of all usual residents.

➔ If preferable, you can attach a printout containing the names, date of birth and sex of all usual residents and ➔ **GO TO 7**

**Resident 1**

Name:

Date of birth:    Sex:  Female  Male

Detailed written and digital guidance was also supplied to communal establishment managers about who to include in this element of the form. This was a success with a 100% completion of this information for student-focussed communal establishments in Northern Ireland.

## 2.5. Student administrative data

Historically, NISRA has had access to Higher Education Statistics Agency (HESA) data on students. This data is used for the production of population estimates but

only becomes available well after the academic year (e.g. HESA data for 2020/21 was made available in January 2022). Given this, NISRA sought and obtained administrative data from the two local universities (including Stranmillis and St Mary's) for all students on their registers. This was obtained in March 2021 and contained data on the student's term-time address (if it existed). This information was used to augment the communal establishment collection process.

Taken together, this provided support to some of the initiatives undertaken to ensure that data on students was captured as completely as possible. As noted in the introduction, the information was utilised in the data processing phase to move students to their correct term-time location, where possible.

### **3. Data processing phase**

Once the census data had been collected a number of data processing steps are required to clean and correct the data – for students most of these were identical to the main census data processing phase, but with some notable differences. Details are given in the sections below.

#### **3.1. Removal of false persons**

This process caters for spurious or limited responses in the census by removing any returns that were clearly not real people or did not contain sufficient information to be treated as a valid response. In order to decide if the response was valid and therefore not a “false” person, at least 2 of the following 5 variables had to be present (slightly different rules were applied to data collected from the paper questionnaire for points a and b):

- a. Name on individual questions
- b. Name on household members table (paper questionnaire only)
- c. Date of birth
- d. Sex
- e. Marital status

For 2021 this process was enhanced with the incorporation of administrative data. Here, if the failing raw census data could be linked to an administrative record, the

raw census record was enhanced with this data and therefore these raw census records had a greater chance of being retained, rather than disregarded.

The risk of inadvertent removal of student records under this process was mitigated by the inclusion of the university data and the communal establishment manager data – both of which allowed for student records to be adequately completed where information was missing from any individual returns.

### 3.2. Reconciling of multiple responses (RMR)

This process is the tried and tested census approach taken to identifying and removing duplication in the census dataset. This process has now been used across the last three censuses (2001, 2011 and 2021), However it was enhanced for 2021 to include extra modules that matched the **entire** Northern Ireland dataset to itself, allowing duplicates to be removed across the whole database (in previous censuses duplicate records were only removed within the same household or communal establishment). This is a significant improvement in overall quality for Census 2021 and was particularly important for students as they were more likely to be recorded on multiple responses and at different locations due to the capture methodology adopted.

In general terms RMR processes included the following:

- a stage to remove household or communal returns where there was two or more responses for that address – note all the individuals attached to the “removed return” were moved to the retained “joint form”;
- a stage within communal establishments which served (i) to “create” individual skeleton returns for each person listed on the manager return, (ii) to link all completed individual returns for the establishment to the overall manager return and (iii) to de-duplicate the overall CE4 manager return to create a consistent return for the establishment; and
- a stage to identify “person duplicates” both within and between addresses and then using a rules based approach, to retain the “best record” and remove the “worst record”. This stage was an enhancement for 2021 and for students was followed by a “student moves” process.



### **3.3. Student moves process**

This process identified students (respondents in full time education aged 19 and over, or listed in educational communal establishment manager listing) in the dataset and utilised administrative data to assess both their coverage and location. The RMR process determined which record to keep if there were duplicates for a student, and the student moves process determined the address at which the record should be located. The process also moved students to their correct term-time address where they had been enumerated at home, and information was available to identify their normal term-time address.

A list of priority rules were developed for this process based on the different scenarios present within the data:

1. if a student was present on an educational communal establishment manager listing, they were moved to the communal establishment address – irrespective of any other address being recorded.
2. if a student was on HESA data with a term time address outside of Northern Ireland or recorded a term time address outside of Northern Ireland, they were retained but flagged as a non-usual resident.
3. if a student was on university data at a term time address in Northern Ireland, they were moved to that address.
4. otherwise the student was moved to a term time address if they had supplied one in Northern Ireland or remained at the home address (in the absence of any other information).

As a result of the student moves process, 2,800 student records were moved to their Northern Ireland “term-time” address. An additional 11,300 records were flagged as non-usual residents because the term time address was outside Northern Ireland.

## **4. Quality assurance**

To assure the student moves process worked as expected, cases were tracked through the process to ensure all moves were valid, and distributions before and after the student moves process were scrutinised. Automatic and manual checks were completed on links between students and administrative data.

A final student specific step was to compare the datasets obtained from local universities with the educational communal establishment manager listings. Where a student was present in the university datasets with a term-time address in a communal establishment, but could not be linked to a resident from the communal establishment listing (or to any other census resident), a record was added to the census dataset for each student. This analysis resulted in an additional 600 student records being added to the census dataset.

The remainder of the processes for students were similar to the main processing steps with item imputation and estimation/coverage adjustment being applied across the database.

The final figures for students studying in Northern Ireland, and the number of Northern Ireland born students studying outside Northern Ireland were compared to [previously published historic HESA data](#), with the numbers for both considered to be plausible.