

STEM+ Coding for CIP 2010

To make STEM coding easier and more consistent, a series of STEM flags have been added to the CIP_LOOKUP_2010 table in the API database. The STEM flags are assigned based on CIP 2010 code. The STEM flags will be imported into the IRDB along with the CIP 2010 codes. There are six STEM flags, as outlined below.

- **major_group_code** This is a two-character field that replaces the old stem_flag_code.
- **major_group_desc** This field provides labels for the codes in major_group_code.
- **stem_desc** This field provides a more generic grouping of the STEM fields.
- **stem_level** This field categorizes each major_group_code into its “science”, “technology”, “engineering”, or “mathematics” categories.
- **major_level_group** This field codes all programs into STEM or non-STEM categories. It has three values, “STEM”, “Nursing/Allied Health”, and “Currently Uncategorized”.
- **major_group_sort** This field puts the classified disciplines into STEM order. (See the chart on page 2.)

The first character of each major_group_code is a “letter” that is mnemonically related to the category it denotes (“B” for biology, “C” for chemistry, &c). The second character is a number which arbitrarily categorizes a “subtype” of the main category. For example, “B1” denotes biochemistry as a subtype of biology. The main categories do not include the subcategories, so to select “regular” biology and biochemistry the select statement would require using both flags B0 and B1.

The “science” portion of the STEM disciplines has been separated into its constituent disciplines (biology, chemistry, and physics), and a catchall category “general science” has been created for “science” programs that don't fit into the main three categories. The “technology”, “engineering” and “mathematics” disciplines may have subtypes but they all begin with their respective “letter” (“T”, “E”, and “M”).

It is not possible to use code such “not null” to only select STEM disciplines because two additional value sets have been included in the STEM flag. They are “nursing/allied health” and non-categorized (discussed below). Nursing and allied health disciplines aren't generally considered STEM, but since we frequently need to report on them their definitions have been included in the STEM flag coding.

Additionally, all of the STEM+ areas include their teacher education equivalents (e.g., biology teacher education is included within biology). Because of how some colleges register their academic programs, it is sometimes impossible to differentiate the teacher education students from the non-teacher education students at the program level (and CIP 2010 codes are assigned to programs). If the teacher education students should not be included in a particular analysis they can be excluded by specifying that the teacher education flag be null.

Lastly, all non-categorized CIP 2010 codes have been assigned a major_group_code of “ZZ”. There should not be any null values in any of these fields.

major_ group_ code	major_group_desc	stem_desc	stem_level	major_level_group	major_ group_ sort
Science					
B0	Biology	Biology	Science	STEM	1
B1	Biochemistry	Biology	Science	STEM	2
B3	Biomedical Science	Biology	Science	STEM	3
B2	Biophysics	Biology	Science	STEM	4
B5	Neuroscience	Biology	Science	STEM	5
B4	Plant Science	Biology	Science	STEM	6
C0	Chemistry	Chemistry	Science	STEM	7
P0	Physics	Physics	Science	STEM	8
S4	Earth Science	Environmental/Earth/Marine Science	Science	STEM	9
S1	Environmental Science	Environmental/Earth/Marine Science	Science	STEM	10
S3	Marine Science	Environmental/Earth/Marine Science	Science	STEM	11
S0	General Science	General Science	Science	STEM	12
S5	Fire Science	General Science	Science	STEM	13
S2	Forensic Science	General Science	Science	STEM	14
Technology					
T0	Technology	Technology	Technology	STEM	15
T1	Computer Science	Computer Science	Technology	STEM	16
T2	Other CIS	Computer Science	Technology	STEM	17
Engineering					
E0	Engineering	Engineering	Engineering	STEM	18
Mathematics					
M0	Mathematics	Mathematics	Mathematics	STEM	19
M1	Statistics	Statistics	Mathematics	STEM	20
M2	Actuarial Science	Statistics	Mathematics	STEM	21
Non-STEM					
H0	Nursing	Non-STEM	Non-STEM	Nursing/Allied Health	22
H1	Allied Health	Non-STEM	Non-STEM	Nursing/Allied Health	23
H2	Veterinary ¹	Non-STEM	Non-STEM	Nursing/Allied Health	24
ZZ	Currently Uncategorized	Currently Uncategorized	Currently Uncategorized	Currently Uncategorized	25

¹Veterinary programs were inadvertently included in Allied Health (H1) when this categorization was created. If you need to back into old numbers, use both H1 & H2.

The STEM+ Coding and Related CIP 2010 codes

The physical science categories as well as mathematics always include their teacher education equivalents. The reasoning for this is that at some campuses the non-teacher education versions of these programs are merged with the teacher ed versions and at some campuses they are not. The only way to tell, overall, whether teacher education comes into play is at the student level, not at the program level.

To exclude the teacher ed students, if appropriate, select if teacher ed flag is null and they will be dropped from the analysis.

I. Science

A. Biology

- i. [B0 - Biology](#) CIP 2010 code 26 (excluding 26.0202 biochemistry, 26.0102 Biomedical Science, and 26.0203 biophysics) & 13.1322.
- ii. [B1 – Biochemistry](#), CIP 2010 code 26.0202
- iii. [B2 – Biophysics](#), CIP 2010 code 26.0203
- iv. [B3 – Biomedical Science](#), CIP 2010 code 26.0102
- v. [B4 – Plant Sciences](#), CIP 2010 code 01.06, includes soil science 01.12
- vi. [B5 – Neuroscience](#), CIP 2010 code 30.2401

B. Chemistry

- i. [C0 - Chemistry](#) CIP 2010 codes 40.05 & 13.1323

C. Physics

- i. [P0 – Physics](#) CIP 2010 codes 40.08 & 13.1329

D. General Science

- i. [S0 - General Science](#) is made up of all the sciences listed in the CIP 40 category other than chemistry and physics as well as science teacher, CIP 2010 code 13.1316,
- ii. [S1 – Environmental Science](#), CIP 2010 code 03.0104,
- iii. [S2 – Forensic Science](#), CIP 2010 code 43.0106,
- iv. [S3 – Marine Science](#), CIP 2010 code 49.0309
- v. [S4 – Earth Science](#), CIP 2010 code 40.06 & 13.1337
- vi. [S5 – Fire Science](#), CIP 2010 code 43.0203

II. Technology

- A. [T0 – Technology](#) is a catch-all term for disciplines that are (generally) not quite science. It includes:

- i. Communication Technology/Technicians, CIP 2010 code 10
- ii. Engineering Technology, CIP 2010 code 15
- iii. Science Technologies/Technicians, CIP 2010 code 41
- iv. Technology Teacher Education, CIP 2010 code 13.1309
- v. Health Information/Medical Records Technology/Technician, CIP 2010 code 51.0707
- vi. [add Architectural Technology 04.0901](#)

- B. [T1 – Computer Science](#) is CIP 2010 code 11.0701

- C. **T2 – Computer and Information Sciences and Support Services** is CIP 2010 code 11 excluding computer science CIP 11.0701.

III. Engineering

- A. **E0 – Engineering** is CIP 2010 code 14

IV. Mathematics

- A. **M0 – Mathematics** CIP 27 category (excluding 27.05, Statistics) & 13.1311 Mathematics teacher ed.

- B. **M1 – Statistics** CIP 27.05

- i. Business Statistics CIP 52.1302 included in M1
- ii. Biostatistics CIP 26.1102 left in biology B1

- C. **M2 – Actuarial Science** CIP 2010 code 52.1304

V. Nursing & Allied Health

- A. **H0 – Nursing** is CIP 2010 codes 51.38 & 51.39

- B. **H1 – Allied Health** is comprised of all other Health Professions and Related Clinical Sciences and is denoted by CIP 2010 code 51 excluding the specific CIP 2010 codes for nursing (51.38, 51.39), the CIP 2010 code for veterinary technology (51.0808), the CIP 2010 code for pre-veterinary studies (51.1104), the CIP 2010 codes for veterinary medicine (51.24), the CIP 2010 codes for veterinary sciences (51.25), and the CIP 2010 code for Medical Records Technology (51.0707).

- i. CIP 2010 code 13.1307 Health Teacher Education should be included with the other health professions.
- ii. CIP 2010 code 19.0501 Nutrition programs
- iii. CIP 2010 code 31.0505 Exercise Science
- iv. CIP 2010 code 30.1101 Gerontology
- v. CIP 2010 code 60 residency medical programs

- C. **H2 – Veterinary** includes the CIP 2010 code for veterinary technology (51.0808), the CIP 2010 code for pre-veterinary studies (51.1104), the CIP 2010 codes for veterinary medicine (51.24), and the CIP 2010 codes for veterinary sciences (51.25).

Note: Veterinary programs were inadvertently included in Allied Health (H1) when this categorization was created. If you need to back into old numbers, use both H1 & H2.

VI. Non-Categorized

- A. **ZZ – Non-Categorized** Every CIP 2010 code that isn't coded as a type of STEM+ above has been designated as non-STEM so that there are no null values in the flag's code or description fields.