# The Institute of Coding: Addressing the UK Digital Skills Crisis

Institute of Coding
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https://instituteofcoding.org/

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# So What's the Problem?

Superficially, things look good:
"the digital sub-sector will need 518,000 workers for roles in the three highest skilled occupational groups. However, over the last ten years only 164,000 individuals graduated from a first degree in computer science." [UKC15, p. 74]
"In this context, apparently high rates of unemployment amongst graduates of Computer Sciences and other STEM courses demanded an explanation" [Sir16]
DLHE figures of 11.7% versus 8.4% for STEM (7.6% for "Rest of STEM"). Much of this can be explained by he fact that Computer Science *is* different.

# Computer Science is different

At least in terms of where it recruits and is done.

| | Phys. Sci | Maths | Comp. Sci. | Engineer | All Subj |
|---|---|---|---|---|---|
| Russell Group | 34260 | 18480 | 13290 | 40880 | 407495 |
| | 8.4% | 4.5% | 3.3% | 10.0% | |
| Univ. Alliance | 13350 | 7470 | 24850 | 26715 | 389100 |
| | 3.4% | 1.9% | 6.4% | 6.9% | |
| Million Plus | 2580 | 195 | 11480 | 8890 | 171590 |
| | 1.5% | 0.1% | 6.7% | 5.2% | |
| Total | 73325 | 36590 | 79480 | 115295 | 1597825 |
| | 4.6% | 2.3% | 5.0% | 7.2% | |

Note that many universities are in no group.

BME 32% as against all STEM 27% (rest of STEM 26%)

LPN 13% as against all STEM 9% (rest of STEM 8%)

women 16% as against all STEM 35% (rest of STEM 40%)

# Hence a specific response

The Institute of Coding,

- Announced George Osborne November 2015 [Her15]
* Somehow morphs from UK-wide to England-only
- Competition launched by BEIS/HEFCE March 2017 [Dep17]
- Announced by PM at Davos January 2018 [Her18]
* HEFCW decides to join

Currently 27 university partners, and so many industrial that the letters of support overflowed HEFCE's mailbox.
Whole project divided into five themes.

# Theme 1: University learners

1. Co-designed industry standard
2. Degree programmes, e.g. Data Science, CyberSecurity
3. Curriculum innovation
4. Training for work-readiness
5. Extra-curricular innovation
6. Innovative spaces
7. Use of analytics for enhancement
8. Learner records

# Theme 2: The digital workforce

1. Alternative delivery models
2. Specialist provision
3. Generalist provision
4. Education training

# Theme 3: Digitalising the professions

1. Modular digital masters programme
2. Short tasters

# Theme 4: Widening participation

1. Creating a pipeline
2. Tailored, inclusive curricula
3. Flexible delivery models
4. Understanding barriers
5. Sharing good practice

# Theme 5

1. Digital Skills Observatory
2. Conferences, events and media: First Conference 10-13 March 2019, Manchester
3. Long-term sustainability
4. Educating the educators
5. Future Projects Fund (call closed December 2018)


Department for Business and Energy and Industrial Strategy.
Higher Education Funding for 2017-18 (letter to HEFCE).
http://www.hefce.ac.uk/media/HEFCE,2014/Content/News/2017/Grant-letter-2017.pdf, 2017.


Her Majesty's Government.
Chancellor's speech to GCHQ on cyber security: Chancellor lays out new plan for £1.9 billion cyber investment, and details seven more departments that have settled ahead of the Spending Review.
https://www.gov.uk/government/speeches/chancellors-speech-to-gchq-on-cyber-security, 2015.


Her Majesty's Government.
PM's speech at Davos 2018: 25 January [2018].
https://www.gov.uk/government/speeches/pms-speech-at-davos-2018-25-january, 2018.

 Sir Nigel Shadbolt.
Shadbolt Review of Computer Sciences Degree Accreditation and Graduate Employability.
https://tinyurl.com/shadboltreview2016, 2016.

 UKCES.
Sector insights: skills and performance challenges in the digital and creative sector.
https://tinyurl.com/ukcessector2015, 2015.