

Northumbria Research Link

Citation: Irons, Alastair, Crick, Tom, Davenport, James, Hanna, Paul and Prickett, Tom (2021) Increasing the value of professional body computer science degree accreditation. In: Proceedings of the 52nd ACM Technical Symposium on Computer Science Education. Association for Computing Machinery, New York, NY, p. 1336. ISBN 9781450380621

Published by: Association for Computing Machinery

URL: <https://doi.org/10.1145/3408877.3439678>
<<https://doi.org/10.1145/3408877.3439678>>

This version was downloaded from Northumbria Research Link:
<http://nrl.northumbria.ac.uk/id/eprint/44850/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)

Increasing the value of professional body computer science degree accreditation

Anonymized Author(s)

ABSTRACT

The purpose of this poster is to share the progress related to an evaluation of international professional body computer science degree accreditation, framed through an ongoing national review in the United Kingdom (UK). While this review substantially focuses on the UK, other countries, including South Africa and Ireland, have adopted a similar accreditation regime; furthermore, this work is evaluated in the context of the Washington Accord review, taking into account the memorandum's pressure for increased consistency in the UK. In parallel with this international review, the UK's Engineering Council is seeking to enhance and modernise the processes and procedures for degree accreditation (which covers the award of the professional title of Chartered Engineer) and the introduction of the new set of accreditation expectations on approved institutions. The current UK computer science degree accreditation review was initiated following two major national reviews in 2016 looking at the value of both STEM and computer science degree accreditation, which included the value of accreditation to universities, students and employers; what accreditation tells us about graduate level outcomes in Computer Science; and the role of the professional body in helping to shape accreditation as a mainstay of the professional body agenda. This poster presents work-in-progress to better understand the value of professional body accreditation in computer science, as well as how to co-create improved outcomes for all accreditation stakeholders.

CCS CONCEPTS

• **Social and professional topics** → **Computing education**.

KEYWORDS

Accreditation, graduate employability, undergraduate curricula, UK

ACM Reference Format:

Anonymized Author(s). 2021. Increasing the value of professional body computer science degree accreditation. In *The 52nd ACM Technical Symposium on Computer Science Education (SIGCSE '21)*, March 17–20, 2021, Toronto, Canada. ACM, New York, NY, USA, 2 pages. <https://doi.org/10.1145/nnnnnnn.nnnnnnn>

EXTENDED ABSTRACT

The review was initiated from the leadership of the UK's major IT/computing professional body/learned society responsibilities

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

SIGCSE '21, March 17–20, 2021, Toronto, Canada

© 2021 Association for Computing Machinery.

ACM ISBN 978-x-xxxx-xxxx-x/YY/MM...\$15.00

<https://doi.org/10.1145/nnnnnnn.nnnnnnn>

for degree accreditation, in part to ensure that graduates have the skills needed to drive economic recovery and growth across the UK. Building on the findings of the Shadbolt review [3] – commissioned by the UK Government in 2016 – the latest work assesses whether computer science degree programmes need to meet a new set of accreditation criteria. Building on recent work in this area [2], there has been a clear mandate from employers and from across the UK's higher education sector to strengthen the current accreditation framework so that it is more focused on outcomes and links more closely with employability [1]. A steering group of practitioners, industrialists, academics and representatives from other engineering and technology professional bodies was established under an independent chair in summer 2020. Initial tasks include:

- A review of progress in reforming academic accreditation of computer science, computing and information technology degree courses since the 2016 Shadbolt report was published;
- An evaluation of what currently works well and is valued by higher education providers, students and employers and establish if fundamental changes are required and if so what those should be;
- Gathering recommendations for reforming accreditation to fulfil the purpose of validating that graduates have gained sufficient academic knowledge and understanding as well as sufficient competencies for a successful professional career in computing or information technologies.

The current stage in the review process (autumn 2020) is to continue to gather data from the various stakeholders and key constituents in order to inform the recommendations into 2021. The steering group wish to involve as many stakeholders as possible and broaden participation in the review. Four strands have been established: *i)* industry and employers; *ii)* academia; *iii)* students, parents and the public in general; and *iv)* other professional bodies and statutory/regulatory bodies such as the UK's Engineering Council and Science Council. The next steps are to collect deeper sector-level data (including a national survey and targeted focus groups), finalise the review in early 2021, and then redevelop and relaunch the accreditation regime. We also wish to explore portability and potential applicability of this accreditation model to other jurisdictions, in the context of international accreditation frameworks.

REFERENCES

- [1] Tom Crick, James H. Davenport, Paul Hanna, Alastair Irons, Sally Pearce, and Tom Prickett. 2020. Repositioning BCS Degree Accreditation. *ITNOW* 62, 1 (2020), 50–51. <https://doi.org/10.1093/itnow/bwaa023>
- [2] Tom Crick, James H. Davenport, Paul Hanna, Alastair Irons, and Tom Prickett. 2020. Computer Science Degree Accreditation in the UK: A Post-Shadbolt Review Update. In *Proc. Computing Education Practice*. Article 6. <https://doi.org/10.1145/3372356.3372362>
- [3] Nigel Shadbolt. 2016. Shadbolt review of computer sciences degree accreditation and graduate employability. <https://www.gov.uk/government/publications/computer-science-degree-accreditation-and-graduate-employability-shadbolt-review>.

Growing the value of professional body accreditation: A review of a professional bodies accreditation regime

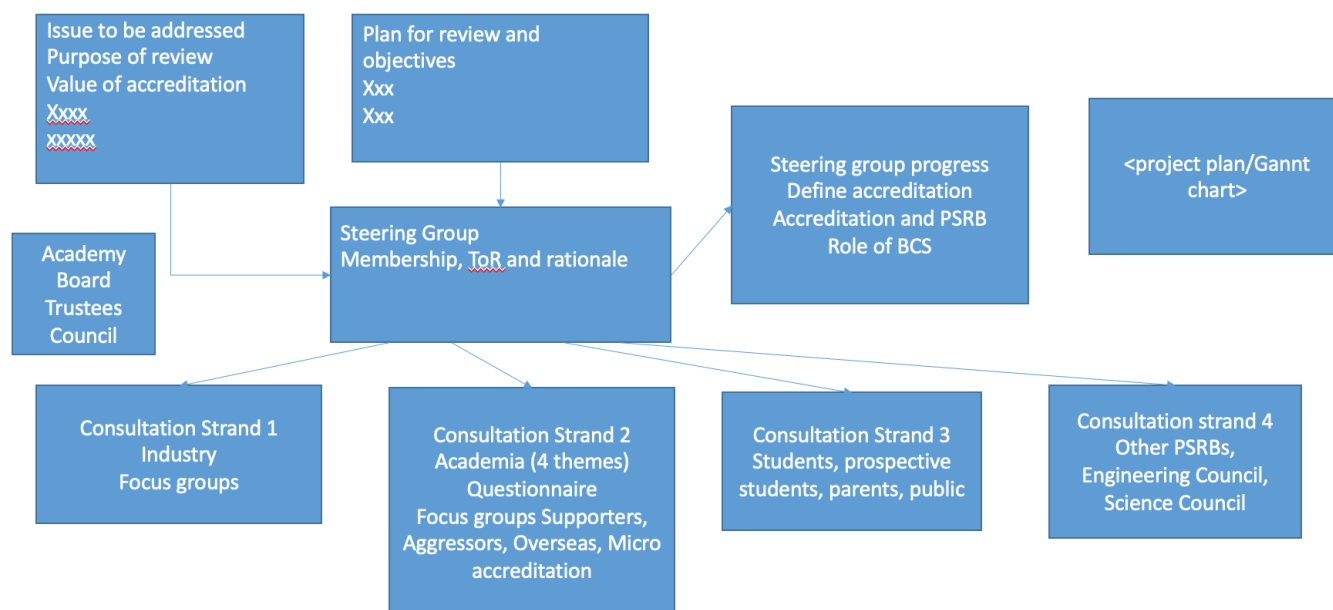


Figure 1: Indicative poster

BRIEF DESCRIPTION OF AUTHOR EXPERTISE AND BACKGROUND AS IT RELATES TO THE POSTER

Two of the authors are members of the steering committee for the national accreditation review, the others are active contributors to working groups related to it and have permission from the UK's professional body to present this work. Furthermore, the authors are senior members of the named professional body, including the current and two previous vice-presidents of the learned society arm. The other authors either hold or have recently held leadership roles as part of the learned society or more specifically related to higher education accreditation. The authors are active researchers in computer science education and experienced education practitioners holding significant education leadership roles within their own institutions. Three of the authors' education contributions have been recognised nationally by the award of UK National Teaching Fellow.

N.B. we have attempted to anonymise individual authors, institutions and links to key material from the UK professional body so as to adhere to the double-blind reviewing criteria. This would be added in for the final proceedings version, if accepted.

HOW YOUR POSTER WILL ENGAGE PARTICIPANTS IN DISCUSSION

Given the virtual nature of this conference, the authors intend to provide a structured electronic whiteboard which will facilitate

asynchronous discussions related to the poster between fellow attendees and the authors. This would be provided using the Freehand functionality of InVision. This technology has no theoretical upper limit upon number of simultaneous users and has been tested with up to 100 simultaneous users. The authors have used it effectively to run workshops at other conferences. It is also available free of charge for educational purposes.

HANDOUTS

Electronic version of the extended abstract and poster will be available. The authors would also be happy to share more details upon previous and ongoing work with interested conference attendees.