**Draft Press Release - Confidential**

Embargo until 00.01 Monday 14th April

*Sent on behalf of Irish Science Teachers' Association*

# Proposed new Leaving Certificate science syllabi rejected by the Irish Science Teachers Association

*A report by Professor Áine Hyland, launched today at the annual conference of the Irish Science Teachers Association, expresses concern about the design of the proposed new Leaving Certificate Physics, Chemistry and Biology syllabi. The report questions whether the syllabi are fit for purpose and suggests that the revised design might lead to a fall in standards.*

*ISTA rejects the new syllabi as currently drafted by the NCCA and calls on the Minister for Education and Skills to seek further elaboration of the proposed syllabi, as recommended in the report.*

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The proposed new Leaving Certificate Biology, Chemistry and Physics syllabi, which have recently been submitted by the NCCA to the Minister for Education and Skills for approval, have been criticised at the 52nd Annual Conference of the Irish Science Teachers' Association (ISTA). A report by a leading academic, launched at the conference, indicates that failure to act now means Ireland will be out of step with international good practice in syllabus design.

**Professor Áine Hyland**, **Emeritus Professor of Education at UCC,** presented the findings of a report entitled '*The design of Leaving Certificate science syllabi in Ireland: an international comparison*' to a packed D'Arcy Thompson Lecture Theatre at NUIG on Saturday 12th April. Professor Hyland was appointed by ISTA as an independent external expert to report on international best practice in syllabus design. While highlighting the vision shared by the education partners – that Ireland must provide a high quality, up-to-date curriculum for its young people and that the Leaving Certificate must maintain its highly-respected national and international status - the report concludes that the syllabi as recently revised, do not conform to international best practice. (*see attached summary and report for full background*).

The commissioning of the 80-page report has its origins in the failure of the National Council of Curriculum and Assessment (NCCA) to address concerns voiced by ISTA over a number of years in relation to the revision of science syllabi. The new draft syllabi submitted to the Minister, provide only a list of topics and related learning outcomes. There is no indication of the depth of treatment required for the various topics. There is also a lack of clarity regarding mandatory experiments and the assessment of practical work. Even highly experienced science teachers are struggling to interpret the new syllabi.

The report analyses physics, chemistry and biology syllabi for senior cycle pupils (16 – 18 year olds) in a number of other countries/systems. The systems chosen for

detailed analysis are those which are similar to the Irish system i.e. they are high-stakes systems where assessment and certification is centralised (i.e. not school-based); pupils are assessed in at least six subjects; the assessment and certification are accepted for third level entry; and the syllabi have recently been revised or are in the process of revision. The systems analysed are the Scottish Highers (assessed and certified by the Scottish Qualifications Authority); the Victorian Certificate of Education (Victoria, Australia) and the Diploma of the International Baccalaureate Organisation.

The report finds that in every system analysed in the study, the syllabi include considerable detail about depth of treatment, examination specification, practicals and laboratory experiments as well as providing extended advice for teachers and pupils. While learning outcomes are specified in all the syllabi, they are only one element of the detail provided. The report is adamant that it is not sufficient to describe a high-stakes examination programme solely in terms of topics and learning outcomes and points out that learning outcomes are statements of essential learning, and as such they are written at minimum acceptable or threshold (pass / fail) standard. If teachers focus only on learning outcomes, there is a real risk that the teaching and learning targets will be at a minimum rather than a maximum level, that the bar will not be set high enough for student learning, and that as a result, standards will fall.

While recognising that the draft syllabi proposed by the NCCA might be seen as a valid first step, the report recommends that more detailed information about the depth of treatment of subjects and the requirements for examination be provided before the syllabi are approved. It also recommends that the full range of syllabus documentation (including teachers' notes, examination specifications etc.) should be officially published at the same time as the syllabus itself, under the logo of the DES (*Department of Education and Skills*) as has been the case in the past. This elaborated documentation should be available well before the syllabus is due to be implemented, to enable teachers to become familiar with the new material and to undergo appropriate professional development and up-skilling. The report also suggests that consideration might be given to collaborating with other bodies, nationally and internationally, to provide appropriate state-of-the art curricular resources and materials (including online and web-based resources) thereby avoiding unnecessary and expensive duplication or re-inventing the wheel.

The report points out that the three science syllabi are the first **existing** Leaving Certificate subjects to be revised under the new curricular framework drawn up by the NCCA. Hence it is particularly important that the proposed design and format of the proposed syllabi be scrutinised and analysed to ensure that the theoretical framework is meaningful and capable of implementation. The report also remarks that it is almost inevitable that the concerns raised by ISTA will be echoed by other subject teachers and associations as well as by third level representatives if the matter is not addressed now.

**Mary Mullaghy, chairperson of the ISTA** issued a statement (*see attached for full version*) where she welcomes modernisation of the syllabuses so long as the depth of treatment is clear. She acknowledged and supported the work of Prof. Hyland, which she said had "identified major concerns… It is clear from the Hyland Report that the draft syllabi finalised by the NCCA do not measure up to international best practice."

Ms. Mullaghy also went on to say that, “It is clear from Professor Hyland’s report that the benchmarking exercise carried out by the NCCA appears to be seriously flawed.”

In 2011 the ISTA highlighted its concerns about the syllabus design in four submissions to the NCCA (See Appendix B p. 48 – 68 in Hyland Report) but all of these concerns appear to have been ignored by the NCCA. Hence, we were left with no option but to commission Professor Áine Hyland to undertake this important research.

In her statement, Ms. Mullaghy called for a complete overhaul. “It is not a question of just “adding on” extra information to the current syllabi in the form of uploading online material. The fundamental design used to draft the syllabi is flawed and this design needs to be changed from that of a syllabus simply containing a list of topics and learning outcomes to a design that incorporates depth of treatment, laboratory practical activities, teacher demonstration experiments and Science, Technology and Society material. All of these important aspects are contained in the Leaving Cert Biology, Chemistry and Physics syllabi that are currently being taught in our schools.”

Ms. Mullaghy also dismissed the possibility of rote learning. “One of the reasons given by the NCCA to our ISTA representatives on the syllabus committees for deliberately keeping the syllabus vague was that ‘over-specification of syllabus design contributes to rote learning;’. Professor Hyland clearly shows in Chapter 4 of her report that there is no foundation whatsoever in this assertion.”

She finished her statement by issuing a direct call to the Minister for Education and Skills. “The ISTA calls on the Minister for Education and Skills to study and implement the recommendations of the Hyland Report in full. Based on the report findings we call on the Minister to reject the current draft of the Leaving Certificate biology, chemistry and physics syllabi submitted to him by NCCA and to ensure that the syllabi are brought up to international standard of best practice in syllabus design as outlined in the report.”

**Charlie Dolan Chair of the IBEC Education & Skills Group** who is the current President of the ISTA stated: “From the perspective of industry - the ultimate employers of scientific graduates, it is vital that the current standard of Leaving Cert syllabi of Biology, Chemistry and Physics are of the highest standards and retain their international recognition. One of the key factors in attracting global companies in Pharma and IT sectors to Ireland has been the quality of the graduates. The Leaving certificate syllabi are the foundation for many of these graduates and as we move into a time of renewed industrial growth, it is crucial that any changes to syllabi maintain these high standards into the future.”

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**Notes to Editors:**

- Embargo until 00.01 Monday 14th April
- Pictures of Dr Hyland and relevant personnel at the launch of the report in NUIG will follow Saturday evening/Sunday morning from Galway-based photographer Andrew Downes.
- Copies of the Hyland Report may be downloaded from wwww.ista.ie. Hard copies are available from the Hon Sec of the ISTA, Dr Maria Sheehan (mariasheehan400@gmail.com).
- Note accompanying extensive background/summary and report attached which provides full context.