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Administrativa

30 September 2022

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Welcome to COMP 335 – Communicating Computer Science

- ▶ Lecturer: Sebastian Wild

Ashton Building 223 ... on and off
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- ▶ Module website: www.wild-inter.net/teaching/comp335

→ your first address for any infos on COMP 335

- ▶ *MS Teams*: discussions
also used for announcements
- ▶ *Canvas*: assessments & marks
- ▶ *Slido*: student response system for formative feedback
- ▶ Final mark: 15% essay + 35% lesson plan + 35% lesson delivery + 15% final report

Components of COMP 335



Lectures

learning theory
education system
background



CS Taster Days

deliver your activity
evaluate success



Lesson plan

select a CS topic &
prepare a lesson on it



Essay

literature work



Final report

reflect on delivery



MS Teams

discussion

Overview of the module

Goals:

- ▶ Develop initial teaching skills:
structuring content, creating lesson plans, engage learners
- ▶ Give you a taste of a secondary-school teacher career
- ▶ Expose you to empirical research in education
- ▶ Build appreciation for professional values in education:
safeguarding principles, the widening participation agenda, embracing diversity

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Units:

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1. The National Curriculum in Computing
2. Learning and Motivation Theory
3. Lesson Planning
4. Empirical Science & Statistics

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We will not (really) touch on:
evaluation and assessment of learning,
quality assurance and enhancement processes,
continuing professional development,
the wider context of school and higher education

What are clickers? Why use it?

- ▶ I use “clickers” as short term for any *student response system*
We will use Slido, a web-based system.
- ▶ Goal: Collect immediate, formative feedback
 - ▶ Stay focused and engaged! *“active learning”*
 - ▶ Quick feedback for students if they are on track.
 - ▶ Quick feedback for teacher if (most of) students are following.
 - ▶ *“lightweight peer instruction”*

Let's try it!



Clicker Question



Have you ever used clickers (or similar systems) before?

A Yes

B No



→ *qli.do/comp335*

Clicker Question

Wishful thinking question:

How would you rank these **modes of teaching** (for lectures) in terms of their **effectiveness for your (personal) learning?**

Assume a setup like this class:

70 students in a standard lecture hall (fixed seat rows, capacity 100)



- | | |
|------------------------------------|-------------------------------------|
| A F2F traditional lecture | D live stream + polls & chat |
| B F2F seminar-style lecture | E prerecorded videos |
| C video conference | F website + media |



→ sli.do/comp335

Assessments

$$\begin{aligned} \text{final mark} = & 0.15 \cdot \text{Essay} \\ & + 0.35 \cdot \text{Activity Development \& Lesson Plan} \\ & + 0.35 \cdot \text{Lesson Delivery (Taster days)} \\ & + 0.15 \cdot \text{Reflective report} \end{aligned}$$

Essay

- ▶ focus on learning theories
- ▶ focus on literature work
- ~~▶ keep you busy in semester 1~~
- ▶ get inspiration for topics for your activity

Taster Day Activity

- ▶ focus on your practical skills
- ▶ focus on collaboration and peer feedback
- ▶ half of mark for **planning!**
- ▶ ... only other half on delivery
- ▶ plus a bit on reflection and postprocessing

Time Plan

Semester 1

- ▶ Weeks 1–5: **Lecture units**
- ▶ Weeks 3–6: Work on **essay**
- ▶ Weeks 7–10: Work on **lesson**
2 further meetings to
 - ▶ decide topics (Week 7)
 - ▶ pitch lesson plan to group (Week 11)

Semester 2

- ▶ \approx 7 **Taster Day** slots
 - ▶ lead lesson of **one** Taster Day
 - ▶ help organize the day
 - ↔ plan to be on campus
9:30am – 2pm on your day
 - ▶ (details to follow)
- ▶ final report towards end of term

→ *current plan always on Canvas*

Essay – CA1

▶ Topic

- ▶ up to you!
- ▶ must touch on CS education
- ▶ must involve literature/sources research

▶ Submission

- ▶ Tue, 1 Nov 2021 18:00
- ▶ on Canvas

▶ Marking scheme

- ▶ Content (70%)
The overall coverage of the essay and how it addresses the topic
- ▶ Organisation (20%)
The structure and presentation of the essay
- ▶ Grammar & Style (10%)
The overall readability of the essay

Example topics:

Should every child learn how to program?

What technology and content is needed to enhance learning in and outside of the classroom?

Why does computer science have a diversity problem and what can we do about it?

How can the teaching of Computing within the National Curriculum be improved at KS3?

...

Taster Day Lesson

▶ Goals

- ▶ show that CS is fun and approachable
- ▶ show that CS is relevant and important
- ▶ advertise for Liverpool and yourself

▶ Setup

- ▶ one school hour (45min)
(prep can be done during break before slot)
- ▶ one school class (≈ 30 pupils)
- ▶ Year 8–10 (age 12-15)
- ▶ in our computer labs (GH Lab 3)

▶ Topic

- ▶ up to you!
- ▶ **Relatable** for all students
have relevance to their life & environment
- ▶ **Inclusive**
both of students with disabilities and
of students with varying prior knowledge
- ▶ **Connected** to National Curriculum in
Computing
without duplicating content from there,
- ▶ ideally feature a *Eureka* moment
lead students to grasp something new
- ▶ Cater for **achievement** on different levels
accommodating variable engagement and ability
- ▶ **Fun and memorable!**

→ More details on lesson & assessments (CA2–4) later.

Introduction / Ice breaker

1. What is an important property / character trait that you have?
2. Where did you go to (secondary) school, what type of school is it?
3. For me, computer science in school was . . .
4. What would you like to take from COMP335?