Communicating Computer Science

0 Administrativa

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Welcome to COMP 335 – Communicating Computer Science

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▶ Module website: www.wild-inter.net/teaching/comp335

  → your first address for any infos on COMP 335

  Canvas

▶ *MS Teams:*   discussions
  also used for announcements

▶ *Slido:*   student response system for formative feedback

▶ Final mark: 20% essay + 50% lesson plan + 15% lesson delivery + 15% final report

  term 1   term 2

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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- *0.* Administrativa ← today
- *1.* The National Curriculum in Computing
- *2.* Learning and Motivation Theory
- *3.* Lesson Planning
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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 you individually) if you are on track.
  - Quick feedback (for me) if (most of) you are on track.
  - *"lightweight peer instruction"*

Let's try it!

Clicker Question

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

A Yes

B No

→ *sli.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

$$\begin{aligned}
\text{final mark} = \quad & 0.20 \cdot \text{Essay} \\
+ \; & 0.50 \cdot \text{Activity Development \& Lesson Plan} \\
+ \; & 0.15 \cdot \text{Lesson Delivery (Taster days)} \\
+ \; & 0.15 \cdot \text{Reflective report}
\end{aligned}$$

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
- ▶ bulk of mark for **planning**!
- ▶ . . . plus a bit on delivery and reflection

Time Plan

Semester 1

- ► Week 1–5: **Lecture units**

- ► Week 6–7: Work on **essay**

- ► Week 8–13: Work on **lesson**
  2 further meetings to
  - ► decide topics (Week 8)
  - ► pitch lesson plan to group (Week 12)

Semester 2

- ► ≤ 10 **Taster Day** slots
  - ► deliver your lesson on **3 days**
  - ► help organize the day
  - ► (details to follow)

- ► final report towards end of term

$\rightarrow$ *current plan always on Canvas*

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- ▶ But: Full lockdown very unlikely at this point.

- ⤳ For the marked delivery, we might fake a Taster Day with module students if necessary.

- ⤳ *We will discuss contingency plans individually for each activity.*

Essay – CA1

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

- **Hand-in**
    - Tue, 9 Nov 2021 18:00
    - on Canvas

- **Marking scheme**
    - Content (60%)
      The overall coverage of the essay and how it addresses the topic
    - Organisation (30%)
      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 8–9 (age 12-14)
- in our robotics lab (probably)

Topic

- up to you!
- must be engaging & enthusing
- approachable even if some prerequisites are lacking
- deliver an "Aha!" moment
- should *connect* to National Curriculum but ideally *complement* it
  "We've done this already . . . "
- ideally allows a "Zoom-only" variant

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

Clicker Question

What programming languages are you familiar with (= can you program in)?

→ *sli.do/comp335*

Introduction / Ice breaker

1. Who are you?

2. Where did you go to (secondary) school?

3. What would you like to get from COMP335?