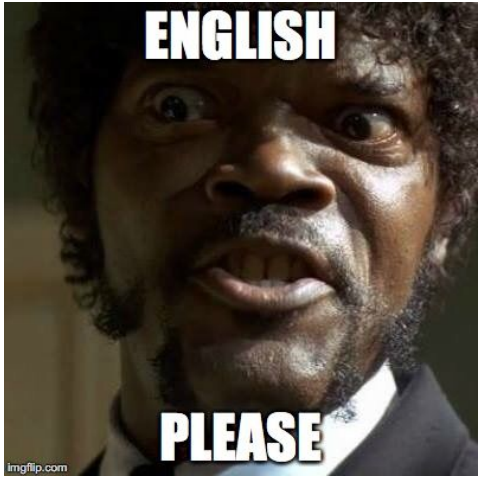
System Programming with C++

Course organization

Languages

Languages

Only C++ and English



Languages

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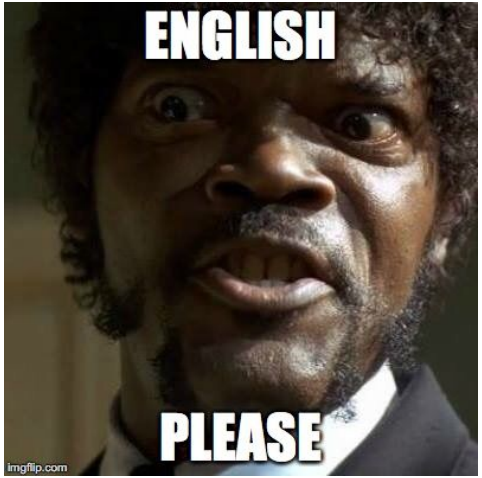
We do not use Russian here.



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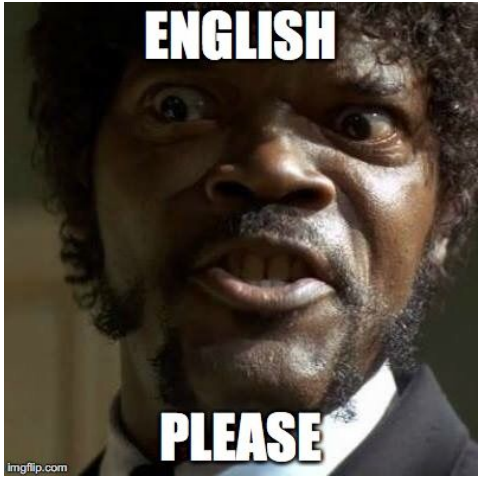
- Lectures,
- Discussions,
- Problems descriptions,
- Consultations,
- Exams!

…all in English.



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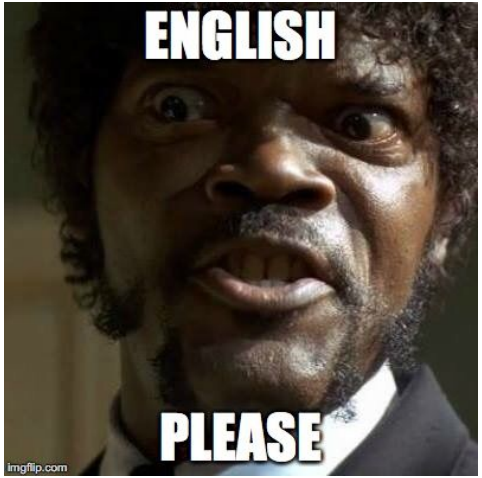

…all in English. Second retake can be in 🇷🇺

Teacher

Ivan Ugliansky

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+7-913-763-3346

And your Telegram group!

What this course is about?

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- C++ language itself

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  - Main features
    - ✓ classes, references, move semantics, etc
    - ✓ inheritance, virtual methods
    - ✓ templates and concepts
    - ✓ exceptions
    - ✓ std/stl, smart pointers, threads

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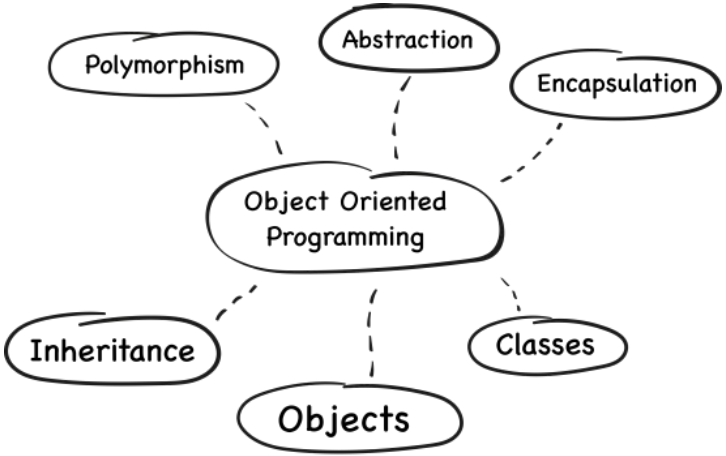
- C++ language itself
  - Main features
  - Their implementation
    - ✓ How do virtual calls actually work?
    - ✓ What is the price of templates?
    - ✓ Which optimizations does compiler make?

What this course is about?

- C++ language itself
- Conceptions of Object Oriented Programming



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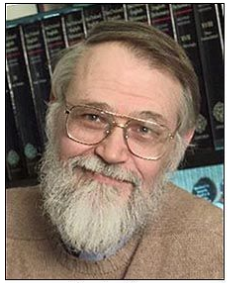
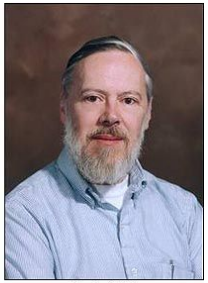

Brian Kernighan


Dennis Ritchie

What this course is about?

- C++ language itself
- Conceptions of Object Oriented Programming

Preconditions for this course:

- C language: pointers and structs
  (macroses as well)
- Java/Python and some basic knowledge
  about classes and their methods

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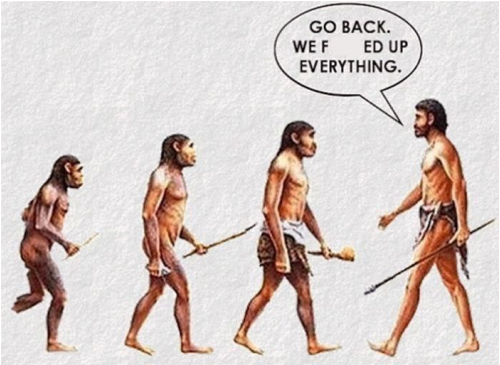

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  Because Losing Is Fun

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  3. Tests and sanitizers!

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  1. Quite huge project! Made by a team of 2-3 students.
  2. Some topics will be suggested, but feel free to suggest something new. Be creative!

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- 16 lectures + X consultations
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  1. Quite huge project! Made by a team of 2-3 students.
  2. Some topics will be suggested.
  3. 4 milestones during the semester.

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04.03.24

```
Project topic approved;
Team formed; Roles chosen;
Further plan prepared;
```

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27.05.24

Polishing finished;

Presentation of the project.

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- ✓ Coursework — [0; 40] points

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  - Passing milestones can give you 5/10/10/15 points each.

  - Missing a deadline give you 50% penalty.

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- ✓ [55; 70) points — C (3)

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60 points for the practice?

Ok, take 10 more free points!

Materials and alternative courses

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2. C++ course from Computer Science Center (Part 1, Part 2)

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3. Books? Stroustrup? Alexandrescu?

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3. Books? Stroustrup? Alexandrescu? Sure, if you want.

Finally, we are ready for action!