



# CGT 215 by Dr. Bedřich Beneš

*course web page:*

<http://www2.tech.purdue.edu/cgt/Courses/cgt215/>

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## Course purpose



After taking this course you will (should) be able to:

- understand the way real-time rendering works,
- program platform independent CG applications,
- dominate basics of hardware accelerators,
- use CG boundary representation modeling,
- understand Phong illumination model,
- understand texturing,
- use image processing,
- write interactive CG applications, and
- continue independently your development.

## Course purpose



### Briefly

you will learn the fundamental algorithms and techniques for interactive real-time computer graphics (videogames if you like).

## Course planning



A class has two parts:

- the first  
explanation of teacher with live examples
- the second  
your program

*there are small projects*

- 50%-70% done during the labs
- the rest is left as a homework



### Projects:

- small to cover one-two weeks
- increasing complexity
- written in C or C++
- use any, but we will use the .net



### The final project:

- larger, approximately 3-4 weeks
- on-purpose application
- could be anything:
  - scientific paper, game, or
  - you can offer something



Let

$H_i$  ( $i=1,2,\dots,n$ ) be the projects,

$Q_j$  ( $j=1,2,\dots,m$ ) be the quizzes,

$H$  the final project

$E$  the final exam, and

$F$  the final classification

$$F = 0.4/n \sum H_i + 0.2H + 0.2/m \sum Q_j + 0.2E$$

Practical part is worth 60%

Theoretical part is worth 40%



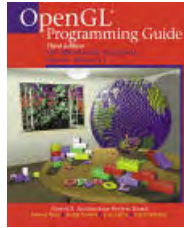
### General comments

- Any troubles -> come *before* the task delivery
- No excuses will be accepted *after* any deadline
- Any doubt, problem, comment, please contact me
- Every time you miss a deadline you loose points!
- Do you need tuition? Send me e-mail, visit me
- My office is located at *Knob 313*



## The Red Book

**OpenGL Programming Guide:  
The Official Guide to  
Learning OpenGL, Version 1.4,  
Fourth Edition (Paperback)**



by OpenGL Architecture Review Board,  
Dave Shreiner, Mason Woo, Jackie Neider, Tom Davis,

<http://www.amazon.com/gp/product/0321173481/ref=nosim/103-1502537-7488606?n=283155>



## The Red Book

Previous version can be found at  
[fly.cc.fer.hr/~unreal/theredbook/](http://fly.cc.fer.hr/~unreal/theredbook/)

There is a significant difference!  
This version uses `aux.h` that is *obsolete*.

The old version does *not* describe some  
advanced and important things.