

# object oriented programming in Java

main features...

- timetabled workshops
- assessment by portfolio

contact

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materials

[www.agent-domain.org](http://www.agent-domain.org)

java lecture series

## broad aims

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- OOP
- Java
- events
- professional skills
- agile development

no Java, no OOP – an intensive introduction to OOP & Java

some Java & OOP – investigation into advanced concepts

structure – a series of workshops + problem-based learning

- investigate the Java API class hierarchy
- select appropriate API classes & methods
- use a professional IDE (Netbeans)
- compile a high quality portfolio of work

## workshop structure

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|---|---------|
| 1. issues from previous session<br>submission of portfolio work<br>workshop objectives<br>presentation<br>outline of tutorial | 30 mins |
| 2. tutorial work<br>individual feedback on portfolio work   | 2+ hrs  |
| 3. tutorial feedback<br>outline of workshop investigation   | 30 mins |
| 4. investigation work   | 2+ hrs  |
| 5. presentations & feedback from study teams  | 30 mins |
| 6. consolidation & portfolio planning   | 30 mins |

## workshop sessions

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1. introduction & course outline  
basic Java graphics & GUI events  
using netbeans  
portfolio: graphics & GUI, portfolio structure (formative only)
2. objects & methods  
hash collections  
portfolio: phonebook example #1
3. linear collections & iteration  
portfolio: building collections
4. classes & OOP  
portfolio: phonebook #2
5. managing data files, using strings  
portfolio: firebase example
6. more OOP  
portfolio: drawing package
7. advanced concepts (eg: concurrency)  
portfolio: synchronization

## assessment by portfolio

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### portfolio

- a collection of work from the course (usually one each week)

### for each piece of work...

1. a written summary of the work (1-2 pages using a standard template)
2. properly formatted & presented Java code (not included in the 1-2 pages)
3. a link from a *portfolio-wrapper* program which calls the appropriate Java program

### final portfolio

- collection of all reports
- 1-2 wrapper programs linked to all portfolio work

# portfolio report layout

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title

brief

1-2 pps

tools & techniques

important features from the API  
new types of events, collections, control structures  
OO collaborations & patterns  
...etc...

results

observations (what does it do?)

critique

what choices were made  
what is well presented  
what can be improved

Java code

properly formatted & presented