Pattern Recognition
2016-2017

Lecturer: Prof. **Nicolai Petkov**

Guest lecturers: Dr. **Nicola Strisciuglio**,
Dr. **Laura Fernandez**, Dr. **George Azzopardi**

Teaching assistants:
Laura Baakman, Rick van Veen
Bastiaan van Loon

Lectures: two hours lectures per week

Recommended literature: see Nestor

Computer exercises: compulsory!
Two hours per week with assistance by TAs.

Completing an exercise and writing a report will take you more time (6-8 h per week).

Final grade:
50% of grade on digital examination
50% of average grade on computer exercises

Each of the above partial grades needs to be **at least 6** in order to pass.

Rounding up or down depends on the grade of the digital examination.

For further details, see Nestor.

Content overview

W1: Example applications. Patterns and recognition. Statistical decision theory, iris recognition. Missing features.

W2. Bayesian classification. Parametric classification. Normal distribution.

W3. Recognition by transformation: Fourier, Hough and Radon transforms with applications

W4. Maximum likelihood estimation. Non-parametric classification, k-NN, Large margin k-NN. ROC curves.

Content overview (cont.)

W5. LVQ, cross-validation.

W6. Clustering.

W7. Hierarchical clustering. Face detection.

W8. Independent component analysis.