Variation Methods and Optimal Control (VMOC)
Matthew Roughan
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- Who: A/Prof. Matthew Roughan `matthew.roughan@adelaide.edu.au`
`http://www.maths.adelaide.edu.au/matthew.roughan/Lecture_notes/Variational_methods/`

- Where and when:

    - Lectures/Tutes/Class Ex:
        * Tutes every second Wednesday (see schedule)
        * Class exercises handed out alternate Thursdays, to be handed back before the following Thursday,
    - Consulting, rm 6.37, Thursday 2-3pm

- **fill in the signup sheet**

- Assessment:

    - exam 70%
        * I plan to try to arrange the exam so you can take 2 sheets of hand-written notes into the exam.
        * Supplementary exam (for those who qualify) will be an oral exam.
    - class exercises 20%
    - interaction in class 10%

- Students **must** understand the University Plagiarism policy, see
    `http://www.adelaide.edu.au/policies/?230`
    `http://www.adelaide.edu.au/clpd/plagiarism/students/`
    The School encourage students to work together and to seek help from staff, but all assignments and reports submitted for assessment must be the student's own work unless otherwise specified by the lecturer. University policy is that "no candidate shall submit for assessment, whether by examination or otherwise, any piece of work which is not entirely the candidate's own, except where either:

    (a) use of the words or ideas of others is appropriate and is duly acknowledged, or

    (b) the examiner has given prior permission for joint or collaborative work to be submitted. "

    I need one signed cover sheet from each student or assignments will get zero.

- Lecture Notes

    - all notes are updated on **my** web page
`http://www.maths.adelaide.edu.au/matthew.roughan/Lecture_notes/Variational_methods/`
    - I will arrange for the copy center to sell printed notes.

- Some references

    - "The Calculus of Variations", Bruce van Brunt, Springer, 2004.
    - "A Primer on the Calculus of Variations and Optimal Control Theory", Mike Mesterton-Gibbons, AMS, 2009.
    - "Calculus of Variations", Craggs, J.W, George Allen & Unwin Ltd, 1973.
    - "Calculus of Variations", A.M. Arthurs, Routledge & Kegan Paul, 1975
    - "Differential Equations and the Calculus of Variations", L.Elsgolts, MIR Pulbishers, 1970.
    - "Calculus of Variations", Robert Weinstock, McGraw-Gill, 1952 or Dover 1974
    - "Lectures on the Calculus of Variations", G.A. Bliss, University of Chicago Press, 1961.
    - "Problems and Exercises in the Calculus of Variations", M.L.Krasnov, G.I.Makarenko, and A.I.Kiselev, MIR Publishers, 1975.
    - "Calculus of Variations", L.E.Elsgolc, Pergamon Press, 1961.
    - "Introductory Optimization Dynamics", Pierre N.V. Tu, Springer-Verlag, 2nd Ed., 1991.
    - "Optimal Control: an Introduction to the Theory with Applications", Leslie M. Hocking, Clarendon Press, Oxford, 1991.