

# *Taking Control*



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ICEE—2010

# Taking Control

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[UWS, School of Engineering,  
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- Bachelor degrees
- Civil, Computer, Electrical, Robotics /  
Mechatronics
- Accredited courses ...IEAust
- Construction, Industrial Design

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## Automatic control

- Meeting specifications ... physical process
- Applying negative feedback in engineering
- Mathematically based
- Not liked in general
- Measures to take ... to aid acceptance

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## Automatic control

- Negative feedback in engineering

## *Compare*

- Positive feedback ....
- aid to learning .... stability
- engineering .... instability

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## Automatic control

- Negative feedback in engineering

*Compare ..... curious*

- Positive feedback ....
- aid to learning .... causing stability
- engineering .... causing instability

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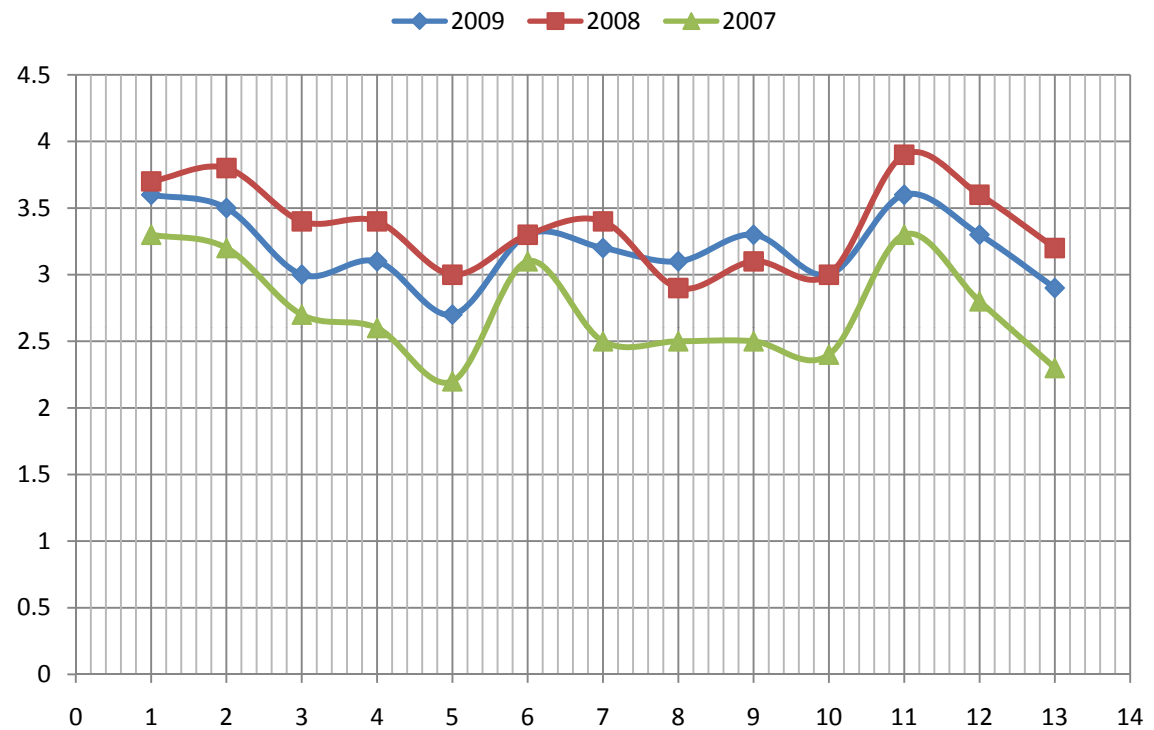
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- Better acceptance of the automatic control concepts
- Create environment .... assists students.
- Previous students comments

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## Student feedback on units SFU



- Student ratings ..... 1 to 5
- Up and down ratings

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## Graduate attributes

- Set by IEAust + UWS
- Observable on graduation
- Roles as professional engineers
- Relevance of discipline competence
- Emphasized to the class



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## Delivery....

- Lectures .... 1.5 to 2 hrs /wk
- Tutorials ..1 hr / wk
- Practicals 2hrs / wk .... alternate
  - Physical labs 2 x 2hrs / wk
  - Simulations 1x2 hrs / wk
- Homework .... 5Q, multiple choice /wk
  - immediate feedback

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## Delivery.... Use of Blackboard site

- Post up documents....
- Remote access
- Discussion board
- Test statistics ..
  - feedback to student
  - where they are .. rest of class

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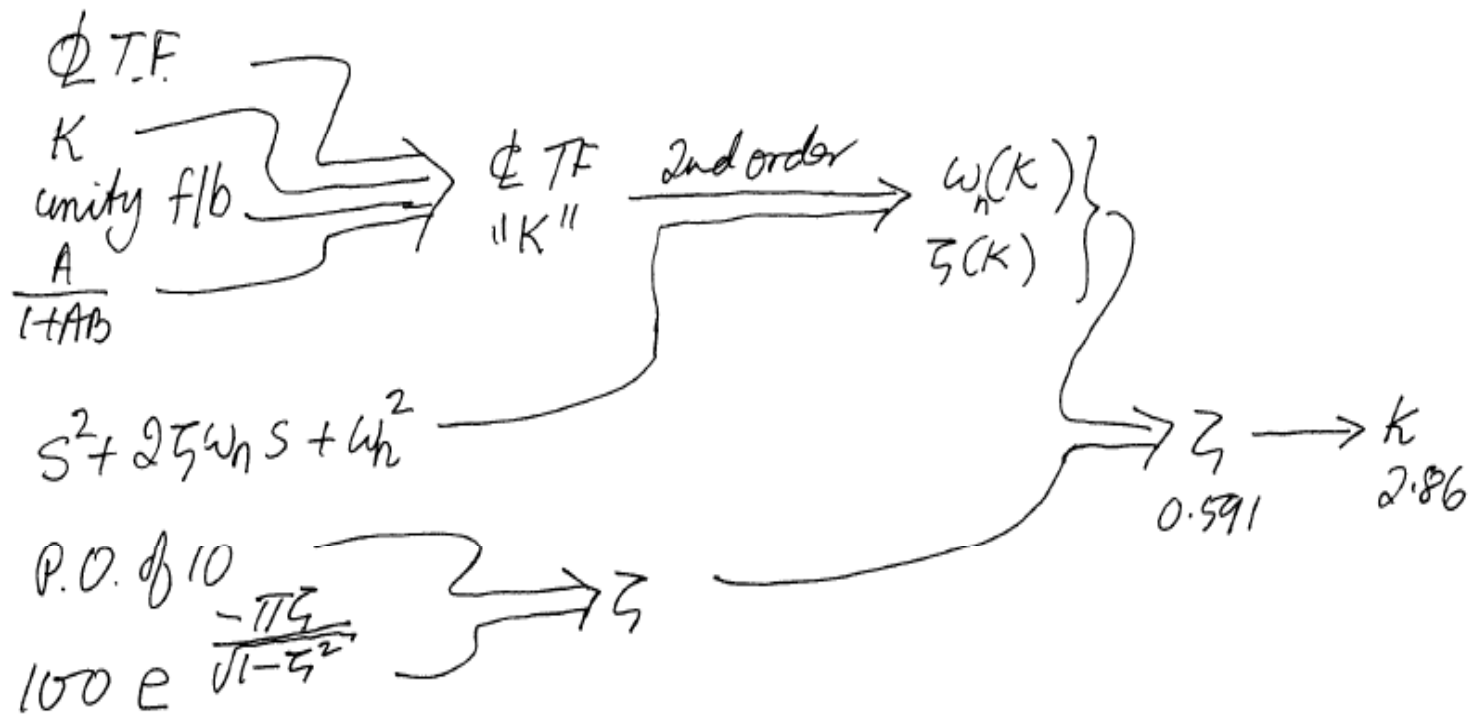
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## Tutorials .... 1 hour duration

- Involvement of the class ....
- Student at the whiteboard
- Making the solution their own ...
  - use of the concept map ....
  - their version is better .....

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Concept map..... as a tutorial solution



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- Leaving things to “Stu Vac” .... bad idea
- Engage from the start
- Homework each week + feedback in time
- Quizzes 3 times per session... ditto
- Physical labs
- Simulations

## Criteria Based Assessment...

- First attempt in 2010
- Learning Guide + Unit Outline
- Criteria set out

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- Allow students to take more control of their learning .... they decide...
- Concept maps ... make it their own
- Slower delivery , targeted concepts
- More time for physical practicals ..component level
- + Use of simulations ... Matlab



## Handing over control

- Reduced scope ..targeted concepts
- Slower delivery rate
- More time for physical practicals
- Relevance to the graduate attributes
- Good for one, not for another?
- Timely feedback . .. multiple choice, stats
- Start of lifelong learning ?
- Less of a disconnect ..discerned !