MANF3510

DfcWgg HYW bc c[mUbX 5i hca Uh cb

HYfa Hk c ## &$&%

Course Overview

Staff Contact Details

Convenors

Name	Email	Availability	Location	Phone
Dr Erik van Voorthuysen	eriv@unsw.edu.au	Immediately after tutorials on Moodle, Teams and by appointment	ME507	9385 34147

Lecturers

Name	Email	Availability	Location	Phone
Dr Ron Chan	r.bhan@unsw.edu.au	Immediately after tutorials on Moodle, Teams and by appointment	ME507	9385 3515

School Contact Information

Location

UNSW Mechanical and Manufacturing Engineering

fŽ*%&Ł-',)'+**%—'9b[]bYYf]b['‡bXi ghf]U`HfU]b]b[

fŽ*%&Ł-',)'' %+-'—'I BGK 'Ghi Xm5VfcUX'UbX'I BGK '9I VXUb[Y'fŽcf']bVci bX'ghi XYbhgŁ

fŽ*%&Ł-',)'($-+'—'GVXcc`CŽ]W†ŧ

ŧ D`YUgY`bchY'h\Uhh\Y'GVXcc`CŽ]W†'k']``bch_bck'k\Yb#†Zmci f'Vci fgY'WcbjYbcf']g'cb'WUa di g'cf Uj U]`UV`Y

9a U]`

[9b[]bYYf]b['Ghi XYbhGi ddcfhGYfj]WYg](...) '—'W ffYbhghi XYbhYbei]f]Yg

- Y"['"'Ybfc`a Ybhž'dfc[fYgg]cbž'WUg\'fYei Yghgž'Vci fgY']ggi Yg'cf'dfc[fUa !fY`UhYX'ei Yf]Yg

[I BGK 'Ghi Xm5VfcUX](...) '—'ghi XmUVfcUX'ghi XYbhYbei]f]Yg'fŽcf']bVci bX'ghi XYbhgŁ

[I BGK '9I VXUb[Y](...) '—'ghi XYbhYI VXUb[Y'Ybei]f]Yg'fŽcf']bVci bX'ghi XYbhgŁ
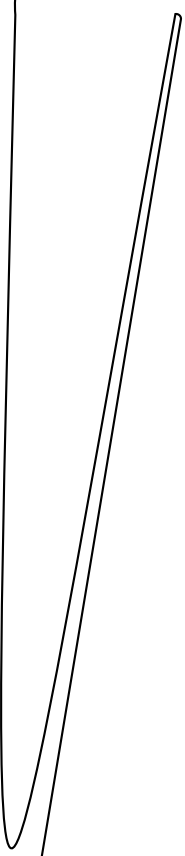
[I BGK ': i hi fY'Ghi XYbhg](...) '—'dchYbh]U`'ghi XYbhYbei]f]Yg

7ci fgY 8YhU]`g

7fYX]h Dc]bhg *

Gi a a UfmcZ h\Y 7ci fgY

? YmⱫUWhcfg Zcf gi WWYgg]b a cXYfb a Ubi ZUWhi f]b[ ]bW│ XY eiU`]hmž dfcXi Whj]hmž YZ│WWYbWmž ZY|]V│]hmž U[│]hmž UbX W│]ghca Yf gUh]gZUWh]cb U``k\]`Y a U]bhU]b]b[ Wcbhfc`cj Yf WcghĦ 8YdYbX]b[ cb h\Y WX UfUWY fgh\]g cZ h\Y dfcXi WhUbX ]hg a Uf_YhⱫUb Uddfcdf]UhY a Ubi ZUWhi f]b[ dfcWYgg bYYXg hc VY XYg][ bYX" H]g Wci fgY `g WcgY`mU][ bYX k]h\ h\Y WXUfUWYfgh]Wg UbX fYei ]fYa Ybhg cZgma U``hc a YX]i a gWU`Y a Ubi ZUWhi f]b[ž YbhfYdfYbYi f]U`gUfHi dg UbX dfchchmd]b["

A 5B: ')%$ Vi]`Xg cb _bck `YX[Y[U]bYX]b A A 5B &% $f%% $Ł 8Yg][b UbX A Ubi ZUWhi f]b[UbX 89GB &$$$ 9b[ ]bYYf]b[8Yg][bž k \YfY h\Y U]a]g hc XYj Y cd U XYg][b cf dfchchmdY]bhc U dfcXi Wh h\Uh WUb VY gi WWYggZ `mia Ubi ZUWhi fYX" A 5B: ' )%$ U_Yg h\]g WcbWydthc h\Y bY| hghU[Y h\fci [ h\Y UWX]b[ mci \ck `hc XYg][b U a Ubi ZUWhi f]b[dfcWYgg VmgdYW`Zm]b[ž gYYWh]b[ UbX bhY[fUhb[ h\Y Ug WWi ]XXYb[ `VcW`g cZ dfcWYgg h\YWXbc`cymUbX Ui hca Uh]cb]bhc U gi WWYggž `ma Ubi ZUWhi f]b[ dfcWYgg cf a UWX]bY" H\Y Wci fgY WcbhU]bg Uddfcdf]UhY h\Ycfm UbX U gc Z WghYgYWcb h\Y fYei ]fYX dfUWh]WU`_bck `YX[ Y hc VY UV`Y hc di h h\]g h\Ycfm]bhc dfUWhWY"

H]g Wci fgY ZcWgYg cb a Ubi ZUWhi f]b[hYWXbc`c[mUg k Y``Ug h\Y a U]b Vi]`X]b[ `VcWg cZ bXi ghf]U` Ui hca Uh]cb `bWi X]b[a UhYf]U` \UbX]b[ h\Y WXbc`c[ ]Yg UbX UWhi Uh]cb hYWXbc`c[ ]Yg gi WX Ug dbYi a Uh]Wž Y`YWf]Wa chcfgž gc`Ybc]Xgž gk ]hWXYgž dfc[ fUa a UV`Y c[ ]W Wcbhfc`Yfgž 7 B 7 h\YWXbc`c[mUbX]bXi ghf]U` fcVch]Wg" H\Y U]a `cZ h\Y Wci fgY g hc Vi]`X i bXYfghUbX]b[ cZ h\Y VY\Uj ]ci f UbX gdYWZm h\Y Uddfcdf]UhY `j Y`cZ dfcWYgg h\YWbc`c[mUbX Ui hca Uh]cb U][bYX k]h\ `U gdYWZDWWdfcXi WhiXYg][b"

H\Y Wci fgY U]a g hc XYj Y cd `mci ]bhc U g_]`XX UbX U`!fci bXYX dfcWYgg XYg][ b Yb[ bYYf`UV`Y hc WUffmci h

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5ggYgga Ybh HUg_g

5ggYgga Ybh HUg_	K Y][\h	8i Y 8UhY	Gh XYbh @Ufb]b[Ci HWca Yg 5ggYggYX
E i]nnYg	&$ı	&) #$*#&$&%$' .$$ DA	%ž &ž' ž (
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; fci d Ugg][ba Ybh	($ı	$*#$, #&$&%$) .$$ DA	%ž &ž (

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@Yb[h\. 9UW\ ei]n k]``VY cZ %\ci f XifUh]cb

8YHU]`g.

H\YfY k]``VY hk c ei ]nnYg XYd]b[ k h\ a UhYf]U `Zcm k YY_g %d' f\Y X]b k YY_ ( Ł UbX k YY_g ( !- f\Y X]b k YY_ %$Ł E i ]nnYg k ]``VY cb]bY UbX k]``VY \Y XXuf]b[gWWYXu YX h\ hcf]U#UV h]a Yg" A Uf_g k]`VY fYhi fbYX k]h]n c k YY_g Zca h\Y XUhY cZ h\Y ei]n"

Gi Va]gg]cb bchY g. E i]nnYg k]``VY \Y X cb]bY

Hi fb]h]b g Yhh]b[. H\ ]g]g bch U Hi fb]h]b Ugg][ba Ybh

5ggYgga Ybh & :]bU `Yl Ua

GHUfhXUhY. 8i f]b[9l Ua DYf]cX

@Yb[h\. & \ci fg

8YHU]`g. H\YfY k]``VY U hk c !\ci f Z]bU `Yl Ua WcjYf]b[ U ``a UhYf]U `Ui [\h]b h\Y WcifgY Zca k YY_g %d %$" H\Y Yl Ua k]``VY cb]bY UbX \Y XXuf]b[h\Y Zcfm U `Yl Ua]bUh]cb dYf]cX gYhVml B GK "

Hi fb]h]b g Yhh]b[. H\ ]g]g bch U Hi fb]h]b Ugg][ba Ybh

5ggYgga Ybh ' . ; fci d Ugg][ba Ybh

GHUfhXUhY. $&#$+#&$&%$) .&(DA

@Yb[h\. A Ul]a i m cZ) dU[Yg

8YHU]`g.

; fci d 5gg][ba Ybh %XYU g k]h hY XYg][b cZU D@7 dfc[fUa UbX hY XYa cbghfUh]cb hUh h]g dfc[fUa k cf g" A cfY XYHU] g k]``VY dcgh YX cb A ccX Y"

; fci d 5gg][ba Ybh & XYU g k]h XYg][b]b U 7 B 7 dfc[fUa UbX XYa cbghfUh]b[hUh]h k cf g" A cfY XYHU] g k]``VY dcgh YX cb A ccX Y"

5gg][ba Ybh %]``VY Xi Y Uhh Y YbX cZK YY_ + UbX 5gg][ba Ybh &]g Xi Y Uhh Y YbX cZK YY_ %$" ¨

5gg][ba Ybhg k]``fYei ]fY Ub ]b! dYfgcb J ]j U 9I Ua ]bUh]cb Ug k Y``Ug U k f]hhYb fYdcfh hbch Yl WYYX]b[ ) dU[Yg YUWX" A Uf_g k]``VY fYhi fbYX k]h]b hk c k YY_g Zfca hY XUhY cZgi Va]gg]cb"

I b Ygg gdYWJU Wcbg]XYfUh]cb \Ug VYYb Udd]YX Zcf UbX Ub Ylh Ybg]cb \Ug VYYb [fUbhYXž a Uf_g k]``VY cgh YUWX Vi g]bYgg XUm Uhh Y fUhY cZ &$ dYf XUmž YUX]b[hc Ub UVgc i hY ZU] UfY Uf XUm) "

Gi Va]gg]cb bch Yg. 9UWX Ugg][ba Ybh k]``VY gi Va ]hhYX cb A ccX Y UbX U hUV k ]``VY WfYUhYX]b hY fY Yj Ubh k YY_"

Hi fb]h]b gYhh]b[. H\]g]g bch U Hi fb]h]b Ugg][ba Ybh

5hhYbXUbWY'FYei]fYaYbhg

Ghi XYbhg'UfY'ghfcb[`mYbWci fU[YX'hc'UhhYbX'U``WUggYg'UbX'fYj]Yk``YWhifY'fYWcfX]b[g"

7ci fgY'GWYXi `Y

H]aYhUV`Y

8UhY	HmdY	7cbhYbh
C`K YY_`&)`AUm!`&,`AUm		
K YY_`%``%AUm!`(`>i bY	@YWhifY	DUfh`%.`Tbhfcxi WifcbWtci 5bhcc a5hfcbcaYihjichci[mUbdxbc`c[myU`hY`bhYfbYfocZH\]b[gž`bXistfm`("$`` DUfhž&7`Uacai hdr`tUrXk`UrXk`Ubr`c`YfgžGYbgcfgž6]bUfmH\Ycfm

	7 cgh]b[˙A Yh\cXg
Hi H@UV	5gg][ba Ybh˙DUfh&˙gi ddcfh

Wci fgY VUgYXž]b dUfhž cb gi WX ZYYXVUW "

Þ h]g Wci fgYž fYWbh]a dfcj Ya Ybhg fYgi h b[Zca ghi XYbh ZYYXVUW]bWi XY U a cfY ghfYUa]bYX 7 B 7
Ugg][ba Ybh UbX U fYWbh mfYXYg][bYX D@7 "a UW]bY!cb!U!VcUfX" h ghf]["

Submission of Assessment Tasks

Assessment submission and marking criteria

Should the course have any non-electronic assessment, these should have a standard School cover sheet.

All submissions are expected to be neat and clearly set out. Your results are the pinnacle of all your hard work and should be treated with due respect. Presenting results clearly gives the marker the best chance of understanding your method, even if the numerical results are incorrect.

UggYgga Ybh´dYf¼cfa UbW¼ž´mci ´UfY`Y`][ ]V`Y´h¨c´Udd`m¼cf´GdYW¶U`¨7 cbg]XYfU¨cb´df]cf´hc´gi Va]fh¬b[´Ub
UggYgga Ybh´cf´g]fh¬b[´Ub´YI Ua "

I B G K ´bck ´\Ug´U¨:]fh¬c´G]fh#Gi Va]fi `Y

5WUXYa]W<cbYghmiUbXˋD`U[ ]Uf]ga

I BGK ˋ\UgˋUbˋcb[c]b[ˋWcaaˌ]maˋYbhˌhcˋZcghYf]b[ˋˋUˋW/ˋhˌfYˋcZˋYUfb]b[ˋbˌˋ]bZcfaˋYXˋVmˌUWUXYaˌ]W]bhYˋfˌmˌˋ5``
I BGK ˋghˌXYbhgˋ\UjYˋUˋfYgdcbg]V]`]mˌhcˌUXˌ\Yfˋhcˌˋhˌ]gˋdf]bWˌdˌYˋcZˋUWUXYaˌ]W]bhYˋfˌmˌˋD`U[ ]Uf]ga
ibXYfaˌ]bYgˋUWUXYaˌ]W]bhYˋfˌmˌUbXˌ]gˋbchˌhcˋYfUhYˋUhˌiBGKˋ"ˋBˌSY[Sˌ[e_ˌ SfG@EIˌ [eˌVWˌXˌWˌSeˌgeˌˋˋYˌ
fZWiˌadVeˌadˌVWSeˌaXafZWˌeˌSˋˋVˋbSeeˌˋYˋfZWˌ_ˌaXXSeˌkagdaiˌˋ`ž

D`U[ ]Uga ˌ]gˋUˌhmdYˋcZˋ]bhY``YWˌiˋU``h\YZh‡≠hWˌUbˌhU_YˋaˌUbmˌ]cfaˌgž.Zcaˌ ˋXYˋ]VYfUhYˋW\YUh]b[ˌhcˌˋUWWXYbhU`ˌˋm
WcdmˌˌJb[ˌ.Zcaˌ ˋUˋgciˋfWˌˋkˋ]h\ciˌhUWˌbckˌ YX[ˌYaˌ Ybhˌ‡IˌBGKˋ\UgˋdfcXiˌWˌYXˋUˋkˌYVgˌhYˋkˋ]h\ˌˋUˋkˌYUˌh\ˌˌcZ
fYgciˋfWˌgˌhcˋgiˋddcfˌhˌghˌXYbhgˋhcˋiˋbXYfghUbXˋUbXˋUjc]XˋdˋU[ ]Ufga žjˌ]gˌh [ghˌXYbhˌˌi bgkˋ"YXi ˌ"Ui #dˋU[ ]Uf]ga ˌ"
H\Yˋ@YUfb]b[ˋ.7YbhfYˋUggˌghgˋghˌXYbhgˋkˌ]h\ˌˌi bXYfghUbXˌbˌˋUWUXYaˌ]W]bhYˋfˌmˌUbXˋ\ckˌˋbchˋhcˌdˋU[ ]Uf]gYˋ"
H\YmˌUˋgcˋ\cˋX`kˋcfˋg\cdgˋUbXˋWUb`YˋdˋghˌXYbhgˌcbYˋ!cbˋ!cbYˋ"

Mciˌ UfYˌUˌgcˌfYaˌ]bXYXˋh\ˌUh\WUfYYˌ`‡ˋˌh]aˌYˌaˌUbUˋ[YaˌYbhˋ]gˋUbˌ]aˌdcfˌUbh‡dUfˌhˌcZghiˋXmˌUbXˋcbYˋcZ\\Y
]XYbhˌ,ZYXˋWˌUUiˋgˌYgˌcfˋdˋU[ ]Uf]gaˌ ˌ]gˋdˌcccfˋh]aˌYˌaˌUbUˋ[YaˌYbhˋ.GhˌXYbhgˌgˋ\ciˌˋXˋUˋckˌ ˋgiˌ]ZˌWˌˋˌYbhˌhˌaˌYˌˋcf
fYgYUfVˌˌžˌXfUZˌˌˌb[ˌ.UbXˋhˌ\YˋdfcdYfˌfYˌZYfYbˌW]bˌˌb[ˋcˌZgciˌfWˌˌgˋˌb[ˌdfYdUfˌb[ˋUˋˋUggYgga YbhˌHˌˌUg_g"

=ˋZˋdˋU[ ]Uf]ga ˌ]gˌ.Zˌci bXˌˌbˌmciˌf‡kˋcfˌ`k\Ybˌmciˌ UfYˌˌ]b[ˌZghmYUfˌžˌmciˌf`YWˌiˋfYf`k ˌ]``ˋcZˌZYfˌmciˌˋUgg]ghUbWˌˌhc
]aˌdfcjˋ YˌmciˌfˌUWUXYaˌ]W‌gˌ_]``g"ˋH\Ymˌa UmˌUg_ˋmciˌhˌcˋˌccˋ`UˌhˌgˌcaˌYˋcbˌ`bYˌfYgciˌfWˌgˌžˌUˌh\YbXˌˋh\ˌY‡@YUfb]b[ˋ
7YbhfYˌ‰.cfˋgcaˌˋYh\ˌaˌYg‡fˌg] Uˌ`hˌmciˌfˌ`kˌcfˌ`kˌ]h\ˌ.h\YˋdfcV‡Yaˌ.‰žIˋYX"ˋˋ<ckˋYjˌYfˋaˌcfYˋgfˌˌci g‡]bgˌhUbWˌ`gˌ.b‡Z]gh
mYUfˌžˌgiˌWˋˌUgˌgˌh\ˌYˌ.U‡Jbˋ.Ubchˌ`YfˋghˌˋXYbhˌ`gˌkˌcfˌ]cfˋdUmˌˌJb[ˋˋgcaˌYˌcbYˋhcˌXcˌmciˌf‡kˋcfˌ`žˌaˌUmˌVYˌ.bjˋ.Ygh[UhˌYX
i bXYfˋh\ˌYˌGhˌXYbhˋA]gˋWcbXiˋWˌhDfcˌWˌYˌX‡fYg"

FYdYUhˌYXˋdˋU[ ]Uga ˌfˋYˌjˋYbˋ.bˋ.ZfghmYUfˌ‡žˌdˋU[ ]Uf]ga ˌ.UˌZYf‡.ZˌfghmYUfˌ.žˌcfˌgˋYf‡ci gˌˌbgˌhUbWˌˌgˌžˋaˌUmˌˌgcˋVY
]bjˌYghˌˌJb[UhˌYXˋiˌbXYfˋh\ˌYˌGhˌXYbhˌA]gˌWcbXiˌWˌhDfcˌWˌYˌX‡fYg"ˋH\Yˌ.XˌUˋYbUˌ‡hmˌgˋi bXYfˌh\ˌYˌˋdfˌcˌWˋYXˌfYgˌˋWˋUbˋ`ˌbWˌXˋY
UˋfYˌXˌ.WˌˌcbˌˌˋbˌaˌˋUf_gˌžˌˌJˌ‰U]‡`ˌbˋ‡UˌWˌciˌfgYˋcfˌ`ˌZcfˌh\ˌYˌaˌUˌcghˌˌgˌfˌYˌfˌˋci gˌUˌˋWˌU‡ˌUˌˋfgˌfˌ]_ˌˌY‡dˋU[ ]Uf]ga ˌ]b‡Ubˋ`ˌcbcˌi fg
h\ˌYg]gˌ‡ŁˌYjˌYbˌ`gˌi gdYbg]cbˋcbˋ.Zca ˌˋh\ˌYˋiˋbˋ`jˌYfg]mˌ"ˋH\YˋGhˌXYbhˌA]gˌWcbXiˌWˌhDfcˌWˌYˌX‡fYgˌUfYˌUjˌU]‡UVˋ‡Y.

kkkˌ"ˌ[g‡i bgkˋ"YXi ˌ"Ui #dcˋ]Wˌm#XcˌWˌa Ybhg#ghi XYbˌma]gWcbXiˌ WhˌdfcˌWˌYˌdXZ

5WUXYa]W‡bŽcfa Uh]cb

7fYX]h dc]bhg

7ci fgY WfYX]h g WU W`UhYX ]b l b]hg !C ZÌ7fYX]h fl C 7Ł"H\Y bcfa U`k cf_`cUX Y`dYWhUh]cb Žcf cbY l C 7

5ddYbX]l ˙.˙9b[ ]bYYfg 5i ghfU`]U f95Ł DfcZYgg]cbU` 9b[ ]bYYf 7ca dYhYbWm GhUbXUfX

Dfc[fUa ˙ḇhYbXYX @YUfb]b[˙Ci hWca Yg	
?bck `YX[Y ˙UbX ˙g_]`` UgY	
D9%'% 7ca dfY\Ybg]j Yž ˙h\Ycfm UUgYX ˙i bXYfghUbX]b[˙cZ ˙h\Y ˙i bXYfd]bb]b[˙bUhifU` ˙UbX ˙d\mg]WU` ˙gW]YbWYg ˙UbX ˙h\Y ˙Yb[ ]bYYf]b[˙Zi bXUa YbhU`g ˙Udd`]WUV`Y ˙hc ˙h\Y ˙Yb[ ]bYYf]b[ ˙X]gW]d`]bY	
D9%'& 7cbWYdhiU` ˙i bXYfghUbX]b[ ˙cZ ˙h\Y ˙a Uh\Ya Uh]Wgž ˙bi a Yf]WU` ˙UbU`mg]gž ˙ghUh]gh]Wgž ˙UbX ˙Wca di hYf UbX ˙]bZcfa Uh]cb ˙gW]YbWYg ˙k \]W\ ˙i bXYfd]b ˙h\Y ˙Yb[ ]bYYf]b[ ˙X]gW]d`]bY	
D9%'" ˙ḇ!XYdh\ ˙i bXYfghUbX]b[˙cZ ˙gdYW]U`]ghg fVcX]Yg ˙cZ ˙_bck `YX[Y ˙k]h\]b ˙h\Y ˙Yb[ ]bYYf]b[˙X]gW]d`]bY	
D9%'(˙8]gWYfba Ybh ˙cZ ˙_bck `YX[ Y ˙XYj Y ˙cda Ybh ˙UbX ˙fYgYUfW\ ˙X]fYWh]cbg ˙k ]h\]b ˙h\Y ˙Yb[ ]bYYf]b[ ˙X]gW]d`]bY	
D9%') ˙?bck `YX[ Y ˙cZ ˙Yb[ ]bYYf]b[ ˙XYg][ b ˙dfUWh]WY ˙UbX ˙WcbhYl hi U` ˙ZUWhcfg ˙]a dUWh]b[˙h\Y ˙Yb[ ]bYYf]b[˙X]gW]d`]bY	
D9%'* ˙Ù bXYfghUbX]b[˙cZ ˙h\Y ˙gcW]Už ˙df]bW]d`Ygž ˙bcfa gž ˙UWWci bhUV]`]h]Yg ˙UbX ˙Vci bXg ˙cZ ˙gi ghU]bUV`Y ˙Yb[ ]bYYf]b[ ˙dfUWh]WY ˙]b ˙h\Y ˙gdYW]Z]WX]gW]d`]bY	
9b[ ]bYYf]b[˙Udd`]WUh]cb ˙UV]`]hm	
D9&'% 5dd`]WUh]cb ˙cZ ˙YghUV`]g\YX ˙Yb[ ]bYYf]b[˙a Yh\cXg ˙hc ˙Wca d`Yl ˙Yb[ ]bYYf]b[ ˙dfcV`Ya ˙gc`j]b[	
D9&'& ˙: `i YbhUdd`]WUh]cb ˙cZ ˙Yb[ ]bYYf]b[˙hYW\b]ei Ygž ˙hcc`g ˙UbX ˙fYgci fWYg	
D9&'" ˙5dd`]WUh]cb ˙cZ ˙gmghYa Uh]WYb[ ]bYYf]b[˙gmbh\Yg]g ˙UbX ˙XYg][b ˙dfcWYggYg	
D9&'(˙5dd`]WUh]cb ˙cZ ˙gmghYa Uh]WUddfcUW\Yg ˙hc ˙h\Y ˙WcbXi Wh ˙UbX ˙a UbU[Ya Ybh ˙cZ ˙Yb[ ]bYYf]b[˙dfcˊYWhg	
DfcZYgg]cbU` ˙UbX ˙dYfgcbU` ˙Uh‰	