Web-assisted Teaching in the Department of Land Surveying and Geo-Informatics (LSGI) at the Hong Kong Polytechnic University

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Outline

- Platforms
- Communication
- Software
- Assessment
- Plagiarism
- Student Feedback
- Issues to ponder upon

Platforms

- WebCT
- Blackboard
- SMILE (HKPolyU)
- Departmental intranet repositories
- Windows SharePoint Services, WSS (HBI)
- Google Sites (new)

Communication

- Real-time
  - Chat rooms (synchronous)
  - Email (asynchronous)
- Near real-time
  - Discussion boards (WSS)
- Announcements and Surveys (WSS)

Lecture Notes and Supporting Material

- E-books
- Online lecture notes
- Power Points (beware!)
- Online library resources
- Fair use law
- Website links

Software

- Scratch pad (MathCAD), Matlab …
  - Animations
  - Simulations
  - Demonstrations
- Professional software (ArcInfo, Starnet …)
- Licensing and remote access

Example with MathCAD

Assessment

- Continuous versus traditional assessment
- Formative
- Summative

Formative Assessment

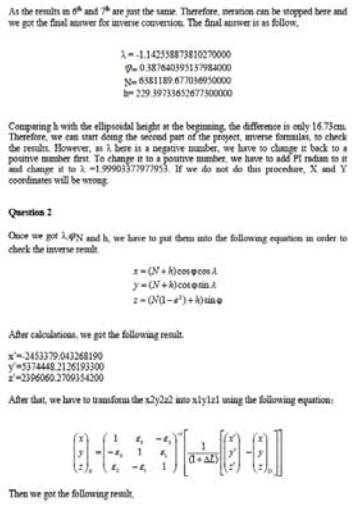
- Online MC tests (incremental coverage for reinforcement)
  - Instructor login:
  - Student login: 146, goodluck
  - Random shuffling order of questions to prevent cheating
- Tutorials
- Monitoring students' accesses to the subject site and access material.

Summative Assessment

- Portfolio assessment
  - Online assignments
  - Projects
  - Tutorials (assessment of online portfolios)
- End of semester comprehensive tests (mixed mode; MC + Essay)

Online Feedback

- Paperless approach: commenting with Adobe professional and MS Word
  - Example ➔



As the results in 6th and 7th are just the same. Therefore, iteration can be stopped here and we got the final answer for inverse conversion. The final answer is as follow;

λ = -1.14253887381027000
φ_N= 0.38764039513798400
N_N= 6381189.677036950000
h= 229.397336326775000

Comparing h with the ellipsoidal height at the beginning, the difference is only 16.73cm. Therefore, we can start doing the second part of the project, inverse formulas, to check the results. However, as λ here is a negative number, we have to change it back to a positive number first. To change it to a positive number, we have to add PI radian to it and change it to λ =1.99903377977953. If we do not do this procedure, X and Y coordinates will be wrong.

Question 2

Once we got λ,φ_N and h, we have to put them into the following equation in order to check the inverse result.

$$x = (N+h)\cos\varphi\cos\lambda$$
$$y = (N+h)\cos\varphi\sin\lambda$$
$$z = (N(1-e^2)+h)\sin\varphi$$

After calculations, we got the following result.

x'=-2453379.043268190
y'=5374448.2126193300
z'=2396060.2709354200

After that, we have to transform the x2y2z2 into x1y1z1 using the following equation:

$$\begin{pmatrix} x \\ y \\ z \end{pmatrix}_A = \begin{pmatrix} 1 & \varepsilon_z & -\varepsilon_y \\ -\varepsilon_z & 1 & \varepsilon_x \\ \varepsilon_y & -\varepsilon_x & 1 \end{pmatrix}^{-1} \left[\frac{1}{(1+\Delta L)} \left[\begin{pmatrix} x' \\ y' \\ z' \end{pmatrix} - \begin{pmatrix} x \\ y \\ z \end{pmatrix}_0 \right] \right]$$

Then we got the following result,

Grading

- Approach
  - Norm-based
  - Criterion-based

Plagiarism

- Cut and paste (paraphrasing, quoting and referencing)
- Non-refereed Internet resources and Wikipedia
- Google for detecting plagiarism vs. Turnitin.
- Cheating
  - Collecting evidence: access monitoring (WSS), CCTV, digital video)
  - Rules and regulations.

Subject Grade Description

Subject grade	*Percentage Standards*	*Short description*	*Elaboration on subject grading description*
A+	90-100	Excellent	The student's work is outstanding. It exceeds the subject learning outcomes in all regards.
A	80-90]	Good	The student's work is excellent. It exceeds the subject learning outcomes in nearly all regards.
B+	70-80]		The student's work is very good. It exceeds the subject learning outcomes in the majority of regards.
B	60-70]		The student's work is good. It exceeds the subject learning outcomes in some regards.
C+	55-60]	Satisfactory	The student's work is wholly satisfactory. It fully meets all the subject learning outcomes.
C	50-55]		The student's work is satisfactory. It largely meets all the subject learning outcomes.
D+	45-50]	Marginal	The student's work is barely adequate. It fails marginally to meet all the subject learning outcomes.
D	40-45]		The student's work is weak. It fails to meet the subject learning outcomes in some regards.
F	0-40]	Failure	The student's work is inadequate. It fails to meet most of the subject learning outcomes.

- ✓ 'F' is a subject failure grade, whilst all others ('D' to 'A+') are subject passing grades.
- ✓] is the exclusion operator. For example, 0 – 40] is equivalent to 0-39.

Student Feedback

- SFQ: Student Feedback Questionnaires
- Surveys
- Discussion boards
- Student blogs

Issues to ponder upon

- Resources
- Teaching language, students' cultural background
- Property rights (instructor) and online copyrighted material: Fair use law
- Computer literacy: student and instructor
- Crime and punishment
- Motivation of student: carrots and sticks
- Motivation of instructor: Cost/benefit analysis.

Nothing can please many, and please long, but just representation of general nature. Particular manners can be known to few, and therefore only few can judge how nearly they are copied. The irregular combinations of fanciful invention may delight a-while, but that novelty of which the common satiety of life send us all inquest; but the pleasures of sudden wonder are soon exhausted, and the mind can only repose on the stability of truth.

Samuel Johnson.