

- Thomas E. Marlin. Process Control. Mc Graw Hill, 2000. etc.

Another design issues:

- What is cascade control system?
- How to select the main and auxiliary variables in cascade control system?
- Why the main loop is the fixed set point control system and the sub-loop is the servo control system in the cascade control system?
- How to choose the main and auxiliary control law of the controller for the cascade control system?

There are some tasks should students to solve:

- To draw the typical block diagram of the general cascade control system;

- Write the electronic documents to answer the above questions.

Modes of organization:

Think independently before class teaching and discussion between teachers to classmates.

Learning Resources:

- <http://www.jingpinke.net/curriculum/show.asp?id=2740>

3. Teaching Feedback and Evaluation

Teacher gives students a table as shown in Table 3 after the class, it help students to encourage himself to improve motivation for learning.

Table 3: Students self-evaluation form.

item	excellent	better	good
I find some points of view and facts by myself			
I put forward a number of learning issues			
I use a variety of self-study resources			
I fully consider the issue and help others			
I feel there is a ability of self-learning			
I am more willing to discuss issues with classmates			

4. Conclusion and Future Work

Students can improve their research skills and social skills by PBL. In addition, PBL demonstrates the benefit of working cooperatively.

We will combine PBL with CDIO which is initialism for Conceive-Design-Implement-Operate method for teaching.

5. References

- [1] Neville AJ, Norman GR, "PBL in the undergraduate MD program at McMaster University: three iterations in three decades," *Acad Med*, pp. 370-374, 2007.
- [2] Willis, S.C., Jones, A., Bundy, C., Budett, K., Whitehouse C.R. and O'Neill P.A. "Small-group work and assessment in a PBL curriculum: a qualitative and quantitative evaluation of student perceptions of the process of working in small groups and its assessment," *Medical Teacher*, pp. 495-501, 2002.
- [3] Hmelo-Silver C, Duncan RG, Chinn CA, "Scaffolding and achievement in problem based and inquiry learning: a response to Kirschner, Sweller, and Clark," *Educ Psychol*, pp. 99-107, 2007.
- [4] <http://www.samford.edu/ctls/archives.aspx?id=2147484112>