



A Comparison of Undergraduate Chemistry Curricula at University of New Hampshire and Hue College of Sciences in Vietnam

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Introduction

This study compares two model curricula of four years chemistry training – one from Hue College of Sciences (HCS) and one from University of New Hampshire (UNH). A comparison of two model curricula is useful to gain an understanding of chemistry education in Vietnam and the US. Although chemistry education at UNH consists of fewer courses, students are provided more laboratory experience.

A. Chemistry Curricula by Credit

Similarities

HCS – Chemistry Curricula (B.S)

Courses	Number of courses/Credits
General Chemistry	2/7 (lab 2)
Quantitative Chemistry	3/13 (lab 2)
Organic Chemistry	3/15 (lab 2)
Inorganic Chemistry	2/ 8 (lab 2)
Thermodynamic + Kinetic	2/10 (lab 2)
Instrument Analysis	1/3
Physic I+II	3/13 (lab 2)
Calculus I+II	2/10
Thesis	2/12

UNH – Chemistry Curricula (B.S)

Courses	Number of courses/Credits
General Chemistry	2/8 (lab 2)
Quantitative Chemistry	1/5 (lab 2)
Organic Chemistry	3/15 (lab 6)
Inorganic Chemistry	2/9 (lab 2)
Physical Chemistry	3/14 (lab 4)
Instrument Analysis	1/5 (lab 2)
Physic I+II	3/8 (lab 2)
Calculus I+II	2/8
Thesis	2/8

Differences

HCS – Chemistry Curricula (B.S)

Courses	Number of courses/Credits
Process Dynamics and Control	3/11 (lab 2)
Macromolecular Chemistry	2/6
General Petrochemistry	1/3
Quantum Chemistry	1/3
General Environmental Chemistry	1/3
Corrosion and Protection of Metals	1/3
Oxidation-Reduction Catalysis	1/4
Applied Chemistry in Informatics	1/5
Data Analysis	1/3

Total credits in major 132/216

UNH – Chemistry Curricula (B.S)

Courses	Number of courses/Credits
Seminar	1/1
Freshman Seminar	2/2

Total credits in major 83/128

B. General Education Curricula by Credit

HCS – Chemistry Curricula (B.S)

Credits to satisfy general requirements are earned in courses selected by chemistry department. General education (84 credits)

UNH – Chemistry Curricula (B.S)

Credits to satisfy general requirements are selected by students from two possible areas: Discovery program (24 credits), and elective (20credits).

C. Cultural Considerations

HCS – Chemistry Curricula (B.S)

Strong parental influence on major selection

UNH – Chemistry Curricula (B.S)

Students self-select into major

Acknowledgements

Funding from the department of chemistry UNH is gratefully acknowledged
Professor Zercher



Conclusion

Both curricula offer fundamental courses in chemistry. Nevertheless, there are major differences in emphasis. HCS curriculum requires more theory courses than UNH (almost double). However, laboratory training at UNH is more advanced than at HCS. Furthermore, curricular organization is reflective of cultural differences.

References

- [1] Chemistry News, University of Illinois at Urban-Champaign, Spring/Summer 2009.
- [2] Checklist for B.S Chemistry Major, University of New Hampshire, 2012.
- [3] Checklist for B.S Chemistry Major, Hue College of Sciences, 2008.