Patterson (as private and confidential)

CH_E Survey Evaluation Results for 2012 Spring

Patterson,

In the attachment you will find the evaluation results of the survey Graduate Student Survey.

For the following period: 2012 Spring

The overall indicator is listed first. It consists of the following scales:

The overall indicator is followed by the individual question categories mentioned above. In the second part of the analysis the average values of all individual questions are listed.

If you have questions or comments contact your Class Climate CH_E Administrator or email course-evaluation@iastate.edu

- ISU CH_E Online Course Evaluation Administrator
1. Please read the following instructions before you begin:

1. What degree are you currently pursuing?

   - Ph.D: 93.3% (n=30, av.=1.13, dev.=0.51)
   - Master of Science: 0% (median)
   - Master of Engineering: 6.7% (median)

2. What requirements/degrees have you accomplished so far?

   - Preliminary Exam: 41.9% (n=31, av.=1.77, dev.=0.76)
   - Qualifier: 38.7% (median)
   - Masters: 19.4% (median)

3. Where do you want to work after graduation?

   - Industry: 77.4% (n=31)
   - Academia: 12.9% (median)
   - Government Lab: 22.6% (median)
   - Post-Doc: 29% (median)
   - Not Sure: 6.5% (median)

4. What is your area of research interest?

   - Biological Systems: 17.2% (n=29, av.=4.14, dev.=2.81)
   - Computation: 13.8% (median)
   - Catalysis: 17.2% (median)
   - Polymers and Materials: 13.8% (median)
   - Biomedical: 20.7% (median)
   - Biochemistry: 3.4% (median)
   - Process Control: 0% (median)
   - Corrosion: 0% (median)
   - Separations: 3.4% (median)
   - Process Modeling: 6.9% (median)
   - Nanotechnology: 3.4% (median)
1.5) Do you want/expect to do similar work once you graduate?

<table>
<thead>
<tr>
<th>Yes</th>
<th>93.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

n = 29  
avg. = 1.07  
dev. = 0.26

1.6) Do you have industrial experience prior to coming to grad school?

<table>
<thead>
<tr>
<th>Yes</th>
<th>20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>80%</td>
</tr>
</tbody>
</table>

n = 30  
avg. = 1.8  
dev. = 0.41

1.7) If the answer to question 6 is yes, what industrial experience do you have?

- Bio pharmaceutical - Genentech
- Cargill, total of 9 months in a 6 month and 3 month sessions.
- Internships (2 Counts)
- Process engineering and internships
- Quirurgicos especializados SA: Industrial scaling of anodic coatings on 316 SS

1.8) Would you be interested in doing an internship while in graduate school?

<table>
<thead>
<tr>
<th>Yes</th>
<th>83.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

n = 30  
avg. = 1.17  
dev. = 0.38

1.9) Would it have to involve your current research?

<table>
<thead>
<tr>
<th>Yes</th>
<th>56.7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>43.3%</td>
</tr>
</tbody>
</table>

n = 30  
avg. = 1.43  
dev. = 0.5

1.10) What do you expect to be your main resource when searching for employment after graduation?

- Contacts in Industry: 13.3%
- ChE Department: 0%
- Internet: 26.7%
- Major Professor: 26.7%
- Self: 16.7%
- Engineering Career Services: 13.3%
- Contacts at Technical Meetings: 3.3%
- Current Employment: 0%

n = 30  
avg. = 3.87  
dev. = 1.59

1.11) Are you registered with Engineering Career Services?

<table>
<thead>
<tr>
<th>Yes</th>
<th>56.7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>43.3%</td>
</tr>
</tbody>
</table>

n = 30  
avg. = 1.43  
dev. = 0.5

1.12) If the answer to question 11 is yes, do you think they provide adequate services for advanced degree employment opportunities?

<table>
<thead>
<tr>
<th>Yes</th>
<th>46.7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>53.3%</td>
</tr>
</tbody>
</table>

n = 15  
avg. = 1.53  
dev. = 0.52
Continuing question 12, what could Engineering Career Services do better?

- A session of the career fair for advanced degrees
- Allow students that meet the requirements for certain interviews to actually do the interview. I was not able to interview with 3M last year because I was an international student. Later I found out that the person that actually got the position was from India and had the same F1 status that I have.
- I haven't used them at all
- It's not what they do are doing poorly. I just don't think it's the most effective way to get a job.
- More companies!! Contact Alumni
- Offer links out to other employment websites. The options we have are not far-reaching and there are not as many listed as there actually are. It is misleading.
- Tailor more for advanced degree job seekers
- They could do a better job getting employers who are going to be hiring PhD level employes to come to campus.
- none

What computer skills do you think will be necessary in your future employment?

- Programming 58.1%
- Word Processing 77.4%
- Database/Spreadsheet 74.2%
- Specialized Software 64.5%
- Knowledge Base 38.7%
- Parallel Computing 16.1%
- Automation/Computer-Equipment Communication 19.4%
- Networking 22.6%

What programming languages do you use/know?

- C/C++ 38.7%
- FORTRAN 22.6%
- Visual Basic 9.7%
- BASIC 9.7%
- Python 6.5%
- MATLAB 77.4%
- Java 9.7%
- Shell Scripting 12.9%
- Pascal 0%
- MathCad 6.5%
- SAS, S-plus 6.5%

What types of computers/operating systems do you normally use?

- Linux 32.3%
- Unix 9.7%
- Mac OS 25.8%
- PC/Windows 83.9%
1.17) Are you engaged in experimental (laboratory) research in the ChE department?
- Yes: 80% (n=30, av.=1.2, dev.=0.41)
- No: 20%

1.18) Are you satisfied with the facilities, laboratory environments, access to equipment, computers, techniques, etc.?
- Yes: 96.7% (n=30, av.=1.03, dev.=0.18)
- No: 3.3%

1.19) Any comments regarding question 18?
- Sweeney should have more cell culture rooms
- The BRL building is exceptional in laboratory space.
- The renovations in Sweeney are taking way too long to complete. Sometimes the work is halfway done.
- none

1.20) Are you satisfied with the curriculum currently offered in the ChE department?
- Yes: 90% (n=30, av.=1.1, dev.=0.31)
- No: 10%

1.21) If the answer to question 20 is no, what courses (or types of courses) currently not offered in the ChE department would you like to have offered in the future?
- I would like to see the courses that are listed offered more often
- This has gotten better by the department leaning on 690's more, but the courses are offered too infrequently - I missed out on several courses because they were not offered during the ~3 years I was taking courses
- We need a course that introduces students to campus resources, available equipment, etc.

1.22) Are you satisfied with the curriculum currently offered in other departments?
- Yes: 100% (n=29, av.=1, dev.=0)
- No: 0%

1.24) Have you been given adequate information on the ethical conduct of research (through training/seminars)?
- Yes: 96.7% (n=30, av.=1.03, dev.=0.18)
- No: 3.3%

1.25) Do you feel you have been given adequate safety training for your research?
- Yes: 100% (n=30, av.=1, dev.=0)
- No: 0%

1.26) What other training would you like to have (e.g. fire safety, high voltage electrical, etc.)?
- Electrical safety, particularly basic wiring
- Emergency procedures
- First Aid/CPR
fire safety, high voltage electrical
none (2 Counts)

1.27) How frequently do you meet with your major professor?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>As Needed</td>
<td>46.7%</td>
</tr>
<tr>
<td>Weekly</td>
<td>46.7%</td>
</tr>
<tr>
<td>Monthly</td>
<td>0%</td>
</tr>
<tr>
<td>Daily</td>
<td>3.3%</td>
</tr>
<tr>
<td>Bi-Weekly</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

n=30  
av.=1.7  
dev.=0.92

1.28) How frequently do you have research group meetings?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>6.7%</td>
</tr>
<tr>
<td>Bi-Weekly</td>
<td>30%</td>
</tr>
<tr>
<td>Weekly</td>
<td>50%</td>
</tr>
<tr>
<td>Monthly</td>
<td>0%</td>
</tr>
<tr>
<td>Very Rarely</td>
<td>3.3%</td>
</tr>
<tr>
<td>As Needed</td>
<td>10%</td>
</tr>
</tbody>
</table>

n=30  
av.=2.93  
dev.=1.28

1.29) How helpful are your meetings/interactions with your major professor in helping you with your research?

<table>
<thead>
<tr>
<th>Helpfulness</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unhelpful</td>
<td>3.6%</td>
</tr>
<tr>
<td>Adequate</td>
<td>25%</td>
</tr>
<tr>
<td>Excellent</td>
<td>71.4%</td>
</tr>
</tbody>
</table>

n=28  
av.=2.68  
dev.=0.55

1.30) Any comments regarding question 29?

- Better collaborations with molecular biology is needed for molecular biology techniques; ChEs don't know how to do it.
- Very happy with my major professor and management style
- none

1.31) How helpful are your meetings with your major professor in helping you with your professional development?

<table>
<thead>
<tr>
<th>Helpfulness</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
<td>72.4%</td>
</tr>
<tr>
<td>Unhelpful</td>
<td>0%</td>
</tr>
<tr>
<td>Excellent</td>
<td>27.6%</td>
</tr>
</tbody>
</table>

n=29  
av.=1.55  
dev.=0.91

1.32) Any comments regarding question 31?

- Internships are good for professional development, but papers and the Prelim are more important. I interact heavily with industry from CBiRC, so I get a lot of professional development that way. I gave a lecture once in class so that was also helpful. 1 oral presentation and 2 posters at conferences are enough.
- Most discussion is centered around research goals/methods.
- none
1.33) Do you seek out help from other POS committee members?

- Yes: 46.7%  
- No: 53.3%

n=30  
av.=1.53  
dev.=0.51

1.34) Any comments regarding question 33 (is this helpful? how frequently?)

- During prelim exam, my committee members gave me many good suggestions about my research.  
  Got good ideas and tips during PreLim exam

- I seek help when applicable.

- One other member is kinda helpful in writing and visualization.

- This is not frequently (maybe 3 or 4 times a year) but it has been very helpful

- none

1.35) Do you seek out help from other faculty?

- Yes: 43.3%  
- No: 56.7%

n=30  
av.=1.57  
dev.=0.5

1.36) Any comments regarding question 35 (is this helpful? how frequently?)

- I do get help from molecular biology students  
  It's helpful  
  Just use their equipments.

- again not very frequently (maybe 3 times a year) but it has also been very helpful

- none

1.37) Are there enough opportunities to give oral presentations?

- Yes: 93.1%  
- No: 6.9%

n=29  
av.=1.07  
dev.=0.26

1.38) Have you had any grant/proposal writing experience while at ISU?

- Yes: 23.3%  
- No: 76.7%

n=30  
av.=1.77  
dev.=0.43

1.39) Are you interested in writing grant/proposal?

- Yes: 72.4%  
- No: 27.6%

n=29  
av.=1.28  
dev.=0.45
How many papers have you been the primary author for?

<table>
<thead>
<tr>
<th>Number of Papers</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>56.7%</td>
</tr>
<tr>
<td>1</td>
<td>16.7%</td>
</tr>
<tr>
<td>2</td>
<td>13.3%</td>
</tr>
<tr>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>3+</td>
<td>3.3%</td>
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</tbody>
</table>

Have you had adequate opportunities to write papers?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>89.7%</td>
</tr>
<tr>
<td>No</td>
<td>10.3%</td>
</tr>
</tbody>
</table>

Did you receive adequate assistance from your major professor?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>89.7%</td>
</tr>
<tr>
<td>No</td>
<td>10.3%</td>
</tr>
</tbody>
</table>

Any comments regarding question 42?

- Getting organized and prioritized is the best thing. I learned this on my own. It's better to have a "road map" of where you're going than to do many things at once. Too much multitasking doesn't work.
- I am starting writing the first paper.
- It takes a long time to get my major professor to move manuscripts forward
- none

What teaching experience(s) have you had while at ISU?

- Lab TA: 61.3%
- Teaching Fellowship: 3.2%
- Other ChE course TA: 22.6%
- Super TA: 9.7%
- None: 19.4%

Do you feel the teaching experience at ISU was beneficial?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>95.7%</td>
</tr>
<tr>
<td>No</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

Regarding question 45, what could be done better?

- Giving a lecture in a class related to your research is a good idea
- Have fewer students or have them write lab reports as a group instead of individually.
- I taught as a job for ISU over a summer. I have not been a TA for any ChE courses yet, but I have heard it is helpful.
- Maybe both Lab TA and lecture TA for one semester is more helpful for graduate students.
- Prepare materials/organize new TAs ahead of time. For example, I met my professor and received my materials the Friday before classes began-- I would of liked more time to prepare.
- none
What is being done well in the ChE department?

1. Communication to grad students has improved in the last year.
2. Helpful and knowledge faculty doing excellent research.
3. I think the faculty is very nice, and everyone is helpful. The advisor experience I've had has been wonderful.
4. Seminar series, curriculum and the involvement of undergrad students in research.
5. Seminars, GECSO meeting.
6. The faculty, facilities and the other staff are excellent
7. The professors are great, there are plenty of opportunities to succeed in classwork and outside of class. The curriculum is very satisfactory; I think it prepares people for either industry or research with success.
8. The ratio of students to faculty is perfect for successful communication between students and faculties.
9. The research is excellent
10. The staff is excellent and very helpful.
11. Collaborations and a friendly workplace atmosphere
12. Staff assistant

What is your opinion of the admission policies, program requirements/procedures and graduation requirements in the ChE department?

1. Fairly standard, nothing too unusual
2. Fine.
3. I would like to see more interaction between the graduate students and the faculty before the graduate admissions in the ChE department
4. I would want the admission to the department be stricter than it is. Too many people slip through that are not prepared for this major, and bring you down if they are in a group with them.
5. So far so good.
6. The program should be more active in recruitment; should be more hesitant about filling out the grad program with ISU undergraduates
7. They are fair and accurate
8. They are fair and well structured. No complaints.
9. We should be more selective for undergrad admissions or have higher standards through the curriculum so people who graduate from Iowa State CBE are a credit to the dept when they go out and get jobs.
10. All OK. Pushing faculty to have their students graduate at 5 years is a good thing.
11. None

Please provide an overall assessment of the ChE Department at ISU:

1. Collaboration is always good and the department needs more.
2. Excellent
3. Fine.
4. Good.
5. It does well at developing quality researchers
6. It has prepared me for a future career very well, has helped me foster great relationships with my peers and mentors, and has allowed me to do extracurricular activities as well.
It's a very good department, many opportunities and communications for both research and classes.

It's good overall. It is a good place to work, and I feel future job prospects will be fine.

The department is competitive and offers a variety of faculty members with different areas of expertise. The research experience and advising is excellent.

The department should improve their recruitment policies in order to bring more students and therefore make our department bigger and better!

Very competent department and faculties are really nice and helpful.

The department seems to be doing well - but you didn't need me to say that.

Other comments you'd like to share?

N/A

The seminars could be better, especially the quality of the speakers could be improved.

It would be nice to see the open faculty positions filled.

none
Histogram for scaled questions
Profile

Subunit: CH_E
Name of the instructor: Patterson
Name of the course: Graduate Student Survey

(Name of the survey)