

To use this information, we MUST have this form back by 5:00PM, 13 December 2005

## Eta Kappa Nu Subject Evaluation Form -- TA

Please Return to the Course VI Undergraduate Office, 38-476

Subject Number: 6.189

Lecturer(s): Teller, Leonard, Rus, O'Reilly, Roy

This form is intended to help make our subject evaluations more complete and accurate. We appreciate your candid response - please feel free to write more than we have provided spaces for, or to address issues not specifically mentioned on this form.

1. What do you teach in this subject?

Mobile Robotics Lab → the course is based around a term-long design project in which students design, from the ground up, the modules and interactions in a system that tackles a tough robotics problem. Topics include vision, localization, path-planning, manipulation, and behavior-based reaction.

2. Who should take this subject? Who should not? What prerequisites does a student really need to have?

- Interested in robotics & willingness to debug on high & low level, software/hardware
- Java coding experience
- Familiarity w/ algorithms
- Thrives in hands-on environment
- Ability to work in teams is critical.

3. What do your students have trouble or difficulty with in this subject? What should they do differently? How can a student get the most out of this class?

Project is very team based, and requires clear interaction between teams of different modules. Miscommunication of specifications can make a lot more work for students than necessary

4. What is your opinion of the text and references? Which are the most useful?

- N. A -

5. How would you suggest improving this subject?

- Stable, <sup>well</sup> tested hardware platform
- Get students to work w/ code on large ("splinter") robots early in the term.

6. Do students come to office hours? If so, how many and how often?

→ Not frequently until end of term, when they began testing code on the robot

7. How are grades determined?

\_\_\_% Problem sets (how many: \_\_\_?)  
\_\_\_% Quizzes (how many: \_\_\_?)  
\_\_\_% Labs (how many: \_\_\_?)  
\_\_\_% Participation

\_\_\_% Midterm  
\_\_\_% Final  
\_\_\_% Other:

weekly Design Review presentation per group (1 person each week), lab notebooks, final paper & class participation

ILS complicated 50% Teams 50% Individual, based on

8. Please enter the URL of your own homepage if you want it linked to the on-line copy of the Underground Guide:

http://

→ see class website

9. What do you think of the Underground Guide? Any suggestions for improvement?

for detail  
courses.csail.mit.edu/6.189

Thank you for your input into the Underground Guide.

This is a great, unique class that spans multiple disciplines (EECS, MechE, Aero/Astro) and offers students a large-scaled design project that is unrivaled by other lab classes. Unfortunately, being the first run of this class, there were ~~at least~~ many technical problems/hardware failures, & setbacks that kept the class from reaching it's full potential

The class has a great deal of potential for future terms, and I am certain it will become an excellent lab class.

To use this information, we MUST have this form back by 5:00PM, 13 December 2005

## Eta Kappa Nu Subject Evaluation Form -- TA

Please Return to the Course VI Undergraduate Office, 38-476

Subject Number: 6.189 (to be moved to 6.142)

Lecturer(s): Roy, Teller, O'Reilly, Leonard, Rus

This form is intended to help make our subject evaluations more complete and accurate. We appreciate your candid response - please feel free to write more than we have provided spaces for, or to address issues not specifically mentioned on this form.

1. What do you teach in this subject?

A more "real-world", less sanitized robotics challenge (compared to other classes like MASLab, 6.270, 2.007)

~~As Benet~~

2. Who should take this subject? Who should not? What prerequisites does a student really need to have?

Should take: students with ~~substant~~ experience with robotics + want more "realworld" experience

Should not take: novice students, people unwilling/unable to commit large amounts of time

Prereqs: Java/C or ability to learn quickly, ~~6.170~~ 6.170 would be good. Basic knowledge of all aspects of robotics (hardware, sensors, algorithms, etc.)

3. What do your students have trouble or difficulty with in this subject? What should they do differently? How can a student get the most out of this class?

(lacked in miss) Communication about specs + intentions caused problems. Groups tended to be too insular. The students who got the most out of the class were those who chose to spend time learning what every group was doing + help coordinate, since they had the best idea about what was going on + ~~did~~ all aspects of the robot. Time

4. What is your opinion of the text and references? Which are the most useful?

There were no texts/references

5. How would you suggest improving this subject?

Get a solid hardware platform. Much of our (of the student's) time was wasted tracking down network or power problems, not robotics. Get groups to sit down with each other earlier, possibly in more hospitable space (better lighting, not freezing all the time)

6. Do students come to office hours? If so, how many and how often?

Not really, the TAs also double as LAs so we're around lab anyway

7. How are grades determined?

0% Problem sets (how many: 0?)  
0% Quizzes (how many: 0?)  
50% Labs (how many: ?)  
50% Participation

0% Midterm  
0% Final  
% Other: \_\_\_\_\_

See  
courses.ssa:1.mit.edu/

8. Please enter the URL of your own homepage if you want it linked to the on-line copy of the Underground Guide:  
http://

6.189/fall2005/  
pub/Course-Staff-  
Details.html

9. What do you think of the *Underground Guide*? Any suggestions for improvement?

for more thorough  
evaluation

Thank you for your input into the Underground Guide.



# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 0189

Your Class: '09 '08 '07 '06 MEng G

Your Course: VI-1 VI-2 VI-3 VI-P (MEng) Other \_\_\_\_\_  
or

Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 3

Doing projects and labs: 12

Studying, reading, and completing problem sets: \_\_\_\_\_

How many hours did **each** problem set take? \_\_\_\_\_

001

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional

1 2 3 4 5 6 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating  
(how hard it makes you think, not how long it takes)

1 2 3 4 5 6 7

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: NICKOLAJ KOY Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: JOHN LEONARD Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: VHANNY Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: DANIELA RUS Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

SETH TEUER Lecture

6

## SUBJECT CONTENT

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?) *Requires a lot of application.*

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?  
*Applicable based thing*

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful: lectures: 2 readings: \_\_\_\_\_ recitations: \_\_\_\_\_ tutorials: \_\_\_\_\_ problem sets: \_\_\_\_\_ labs: 1

## PROBLEM SETS

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

## LAB WORK / DESIGN PROJECTS

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

*Labs are reliable & well equipped. Would be nice to have a notebook*

## READINGS

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

## EXAMS AND QUIZZES

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

## RANTS AND RAVES

15. In summary, what are the best and worst aspects of this class?

### WHAT'S HOT?

*Actual mixing of code w/ real  
envi comments for realistic data*

### WHAT'S NOT?

*Its hard.*

16. What do you think of the Underground Guide? Any suggestions for improvement?

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.184  
 Your Class: '09 '08 '07 '06 MEng G

Your Course: VI-1 VI-2 VI-3 VI-P (MEng) Other \_\_\_\_\_  
 or  
 Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:  
 Attending lectures, recitations, and tutorials: 2  
 Doing projects and labs: 20  
 Studying, reading, and completing problem sets: 2  
 How many hours did **each** problem set take? —

002

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

*Times MASlab or 6.210, programming experience (especially 6.184, Java)*

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 4 5 6 7  
 4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating      1 2 3 4 5 6 7  
 (how hard it makes you think, not how long it takes)

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: Prof. Leonard      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: Prof. Aoy      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: Prof. O'Reilly      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: Prof. Teller      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

**SUBJECT CONTENT**

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

This was basically a "build a rover" lab; a scaled-up version of MASLab, with a team of professors teaching and advising.

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

Interest in robotics; AI; software engineering

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful:

lectures: 3 readings: 2 recitations: - tutorials: - problem sets: - labs: 1

**PROBLEM SETS**

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

✓

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

✓

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

✓

**LAB WORK / DESIGN PROJECTS**

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

New course -> project was somewhat ill-defined. Spent a lot of time debugging hardware issues, network issues;

**READINGS**

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

Book is interesting, but not overly helpful

**EXAMS AND QUIZZES**

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

✓

**RANTS AND RAVES**

15. In summary, what are the best and worst aspects of this class?

**WHAT'S HOT?**

SICK laser sensors

Real robotics lab

Huge software project

**WHAT'S NOT?**

Hardware issues

Lack of time for final project.

Huge software project

16. What do you think of the Underground Guide? Any suggestions for improvement?

↓

"I have not failed, I have just found 10,000 ways that don't work"

-Richard Feynman



# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189  
Your Class: '09 '08 '07 (06) MEng G

Your Course: (VI-1) VI-2 VI-3 VI-P (MEng) Other \_\_\_\_\_  
or  
Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 3

Doing projects and labs: 6-12

Studying, reading, and completing problem sets: 0

How many hours did **each** problem set take? NA

003

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

*Strong Java background, free time*

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 4 5 6 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating      1 2 3 4 5 6 7  
(how hard it makes you think, not how long it takes)

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: D. Rus      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

*Great advisor - very involved.*

Name: \_\_\_\_\_      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

## SUBJECT CONTENT

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

*One gains some great practical engineering experience*

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

*Interested in topic*

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful:

lectures: 2 readings: 3 recitations: N/A tutorials: N/A problem sets: N/A labs: 1

## PROBLEM SETS

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

## LAB WORK / DESIGN PROJECTS

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

*One term-long project - great learning experience*

## READINGS

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

*N/A*

## EXAMS AND QUIZZES

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

*N/A*

## RANTS AND RAVES

15. In summary, what are the best and worst aspects of this class?

### WHAT'S HOT?

*robots*

### WHAT'S NOT?

*hardware debug*

16. What do you think of the Underground Guide? Any suggestions for improvement?

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189

Your Course: VI-1 VI-2 VI-3 VI-P (MEng) Other \_\_\_\_\_  
 or  
 Graduate Area: I II III IV V VII

Your Class: '09 '08 '07 '06 MEng G

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:  
 Attending lectures, recitations, and tutorials: 3+4 in lab  
 Doing projects and labs: 10  
 Studying, reading, and completing problem sets: \_\_\_\_\_  
 How many hours did **each** problem set take? none

004

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)  
Programming. ~~IT~~ Buggy code is killer

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 4 5 6 7  
 4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating      1 2 3 4 5 6 7  
 (how hard it makes you think, not how long it takes)

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: \_\_\_\_\_ Lecture Recitation Tutorial Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

All the ppts are great — a little  
 to hands-off in our meetings, but then

Name: \_\_\_\_\_ Lecture Recitation Tutorial Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Again, this is a big problem &  
 design to figure out.

Name: \_\_\_\_\_ Lecture Recitation Tutorial Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_ Lecture Recitation Tutorial Rating: 1 2 3 4 5 6 7  
 Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

LA's are great — very dedicated.

**SUBJECT CONTENT**

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

localization, mapping  
behavior based systems  
defensive programming!

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

joy of robots.

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful:  
lectures: \_\_\_\_\_ readings: \_\_\_\_\_ recitations: \_\_\_\_\_ tutorials: \_\_\_\_\_ problem sets: \_\_\_\_\_ labs:

**PROBLEM SETS**

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

**LAB WORK / DESIGN PROJECTS**

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

Awesome. learn algorithms for cognition/  
vision / scan matching / etc, plus integration  
techniques  
(defensive prog).

**READINGS**

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

**EXAMS AND QUIZZES**

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

**RANTS AND RAVES**

15. In summary, what are the best and worst aspects of this class?

**WHAT'S HOT?**

Programming, teamwork

**WHAT'S NOT?**

Broken odometry

16. What do you think of the Underground Guide? Any suggestions for improvement?

keep it  
simple.  
test & deliver.

Put in the hard work  
for design & integration early

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189  
Your Class: '09 '08 '07 '06 MEng G

Your Course: VI-1 VI-2 VI-3 VI-P (MEng) Other \_\_\_\_\_  
or  
Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:  
Attending lectures, recitations, and tutorials: 6  
Doing projects and labs: 40+ during test weeks  
Studying, reading, and completing problem sets: 0  
How many hours did **each** problem set take? 0

005

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

Programming ability, robotics experience

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 4 5 6 7  
4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating      1 2 3 4 5 6 7  
(how hard it makes you think, not how long it takes)

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: Uma-Maria O'Reilly      **Lecture Recitation Tutorial**      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_      **Lecture Recitation Tutorial**      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_      **Lecture Recitation Tutorial**      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_      **Lecture Recitation Tutorial**      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

**SUBJECT CONTENT**

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

Learn how to design and implement a robotic system, Not as much of a class as it is a term-wide project. Fun.

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

I like robotics. It is great experience for anyone interested in AI Robotics

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful: lectures: 2 readings: 3 recitations: N/A tutorials: N/A problem sets: N/A labs: 1

**PROBLEM SETS**

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

**LAB WORK / DESIGN PROJECTS**

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

The lab is the class

**READINGS**

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

N/A

**EXAMS AND QUIZZES**

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

N/A

**RANTS AND RAVES**

15. In summary, what are the best and worst aspects of this class?

WHAT'S HOT?

Robot!

WHAT'S NOT?

I'm tired

16. What do you think of the Underground Guide? Any suggestions for improvement?

nothing

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189 (6.142)  
Your Class: '09 '08 '07 '06 MEng G

Your Course: VI-1 (VI-2) VI-3 VI-P (MEng) Other \_\_\_\_\_  
or  
Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 2

Doing projects and labs: 12 at the end

Studying, reading, and completing problem sets: —

How many hours did **each** problem set take? —

006

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

none. MASlab helpful

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 4 5 6 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating  
(how hard it makes you think, not how long it takes)      1 2 3 4 5 6 7

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: Nick Ray      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

software guy. wrote low-level software, helpful systems advice and guidance

Name: Una-May O'Reilly      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

speaks quickly, gives good advice but not always practical or helpful

Name: Eric Tsing      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

helpful hardware suggestions

Name: Sam Prentice      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

helpful, network guy, set up computer hardware + network

**SUBJECT CONTENT**

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

navigation, localization, actuation, manipulation, feedback, systems integration, large software builds (java), sensor hardware (c code)

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

took MASLab, RSS:I

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful: lectures: 2 readings: / recitations: / tutorials: / problem sets: / labs: 1

**PROBLEM SETS**

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

/

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

/

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

/

**LAB WORK / DESIGN PROJECTS**

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

Lab is your life, Design reviews helpful but too frequent  
Needs infrastructure ironed out (network, CPU, power, class's)

**READINGS**

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

/

**EXAMS AND QUIZZES**

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

/

**RANTS AND RAVES**

15. In summary, what are the best and worst aspects of this class?

**WHAT'S HOT?**

design reviews every friday  
cool hardware

**WHAT'S NOT?**

network latency  
crappy power supply  
CPU overloading

16. What do you think of the Underground Guide? Any suggestions for improvement?



W

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189

Your Class: '09 '08 '07 '06 MEng G

Your Course: VI-1 VI-2 VI-3 VI-P (MEng) Other \_\_\_\_\_  
or

Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 2

Doing projects and labs: 12

Studying, reading, and completing problem sets: 0

How many hours did **each** problem set take? N/A

007

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

programming experience, knowledge of Java (or C++), linux usage experience, background/prior exposure to robotics

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 4 5 6 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating      1 2 3 4 5 6 7  
(how hard it makes you think, not how long it takes)

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: Teller      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: N. Roy      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Extremely helpful in debugging problems. Willing to come in at all hours to help

Name: O'Reilly      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: J. Leonard      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

lots of hands on development

**SUBJECT CONTENT**

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

yes  
practical experience with building and programming the controller for a robot (with all the gangy headaches) could use a bit more struct

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

↑ interest in robotics  
↑ have plenty of time to devote to class

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful: lectures: 2 readings: \_\_\_\_\_ recitations: \_\_\_\_\_ tutorials: \_\_\_\_\_ problem sets: \_\_\_\_\_ labs: 1

**PROBLEM SETS**

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

N/A

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

N/A

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

no bible

**LAB WORK / DESIGN PROJECTS**

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

lab give good experience with all the design/dev problems face d in robotics

**READINGS**

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

don't exist (could provide more docs)

**EXAMS AND QUIZZES**

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

N/A

**RANTS AND RAVES**

15. In summary, what are the best and worst aspects of this class?

**WHAT'S HOT?**

building a robot

**WHAT'S NOT?**

not having access to robot to test code

16. What do you think of the Underground Guide? Any suggestions for improvement?

great

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189  
Your Class: '09 '08 (07) '06 MEng G

Your Course: VI-1 VI-2 (VI-3) VI-P (MEng) Other \_\_\_\_\_  
or  
Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 2

Doing projects and labs: 10+

Studying, reading, and completing problem sets: N/A

How many hours did **each** problem set take? N/A

008

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.) Depends on the subject you are in. 6.034, 6.076 are useful. Programming experience is important.

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 4 5 (6) 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating      1 2 3 4 (5) 6 7  
(how hard it makes you think, not how long it takes)

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: Nicholas Roy      (Lecture) Recitation Tutorial      Rating: 1 2 3 4 (5) 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Good at promoting class discussion

Name: Danica Rus      (Lecture) Recitation Tutorial      Rating: 1 2 3 4 (5) 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: John Leonard      (Lecture) Recitation Tutorial      Rating: 1 2 3 4 (5) 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Try to compact presentations, usually only a half slides covered

Name: Scott Feller      (Lecture) Recitation Tutorial      Rating: 1 2 3 4 (5) 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: Uma May O'Reilly      (Lecture) Recitation Tutorial

Rating: 1 2 3 4 (5) 6 7

## SUBJECT CONTENT

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

I learned both some specifics about robotics (had no experience prior to this course)  
The subject content was more specific/less broad than I expected due to division of groups  
More theory would be good. Strong point: lots of hands on experience. Weak: possibly too ambitious

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

I took this subject to explore robotics. Someone should take this if they have a strong interest in robotics and has some idea of what aspect they like

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful: lectures: 2 readings: 2 recitations: \_\_\_\_\_ tutorials: \_\_\_\_\_ problem sets: \_\_\_\_\_ labs: 1

## PROBLEM SETS

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

## LAB WORK / DESIGN PROJECTS

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

Lab 2 could have used more guidance  
Final project well structured but not enough time to complete. Hardware failures wasted time

## READINGS

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

## EXAMS AND QUIZZES

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

## RANTS AND RAVES

15. In summary, what are the best and worst aspects of this class?

### WHAT'S HOT?

lots of hands-on experience

### WHAT'S NOT?

hefty time investment

16. What do you think of the Underground Guide? Any suggestions for improvement?

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189  
 Your Class: '09 '08 '07 **'06** MEng G

Your Course: VI-1 VI-2 **VI-3** VI-P (MEng) Other \_\_\_\_\_  
 or  
 Graduate Area: I II III IV V VII

**TIME COMMITMENT**

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 6

Doing projects and labs: 15

Studying, reading, and completing problem sets: N/A

How many hours did **each problem set** take? 15

lab

009

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.) Programming in Java helps a great deal; you don't need to take PSS1 (6.188) although it helps; knowledge of EE, MechE, control systems, and robotics is very useful. The class also requires

**RATINGS** a lot of time.

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional      1 2 3 **4** 5 6 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating      1 2 3 4 **5** 6 7  
 (how hard it makes you think, not how long it takes)

**TEACHING STAFF**

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: Sen Teller      **Lecture** Recitation Tutorial      Rating: 1 2 3 4 5 **6** 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Prof. T is awesome. He's very knowledgeable, has a great sense of humor, is always available to answer questions, and has been extremely helpful throughout the course of the term.

Name: Sam Prentice      Lecture Recitation **Tutorial**      Rating: 1 2 3 4 5 **6** 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Sam was a really amazing TA. He stayed up most nights with us when things weren't working, made himself available to answer questions, and put a ridiculous amount of time into the course in general to make sure the robots were up and running.

Name: \_\_\_\_\_      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_      Lecture Recitation Tutorial      Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

## SUBJECT CONTENT

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?) *interfacing hardware and software in robotics, robot control and manipulation (specifics depend on what module you focus on - planning, vision, manipulation, etc.) Some of the theory is very high-level and vague. I wish we covered more useful things sometimes.*
7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject? *I took this course because I thought it would be interesting, I like AI and robotics, and because I thought some of the material would be useful for my future research. You should take the course for any of the reasons above, except only if the course is greatly improved.*
8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful: lectures: 2 readings: 3 recitations: N/A tutorials: N/A problem sets: N/A labs: 1

## PROBLEM SETS

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

N/A

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

N/A

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

N/A

## LAB WORK / DESIGN PROJECTS

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

*Labs and the final design project end up taking a ridiculously and unnecessarily so amount of time because of hardware failures, poor network connectivity, other groups' code that doesn't compile. I didn't learn nearly as much in this class as I had hoped.*

## READINGS

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

*There are no class notes, except for lecture slides which are posted online. These are vaguely useful. I read about a total of one chapter of the main course text "Building Mobile Robots" or something along those lines and it was pretty helpful and useful.*

## EXAMS AND QUIZZES

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

N/A

## RANTS AND RAVES

15. In summary, what are the best and worst aspects of this class?

### WHAT'S HOT?

*instructors*

*TA'S  
guest lecturers*

### WHAT'S NOT?

*poor network connectivity  
hardware failures  
other groups' code not compiling  
hours spent in lab in vain*

16. What do you think of the Underground Guide? Any suggestions for improvement?

*It's fine.*

# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 6.189  
Your Class: '09 '08 ~~07~~ '06 MEng G

Your Course: VI-1 VI-2 VI-3 VI-P (MEng) Other \_\_\_\_\_  
or  
Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 2.5

Doing projects and labs: 15

Studying, reading, and completing problem sets: 0

How many hours did **each** problem set take? 0

10

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

Lots of coding experience, passion, patience

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional

1 2 3 4 5 6 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating  
(how hard it makes you think, not how long it takes)

1 2 3 4 5 6 7

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: Nick Roy

Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Enthusiastic always trying to help, kept a good sense of humor

Name: Seth Teller

Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Very helpful. Always helped when needed. strove to make us learn

Name: Daniela Rus

Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

offered morale boosters, but that was more or less it

Name: John Leonard

Lecture Recitation Tutorial

Rating: 1 2 3 4 5 6 7

Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Seemed enthusiastic, but I had minimal contact with him.

## SUBJECT CONTENT

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

If you learn things, it'll be pretty on your own research. In class, you learn about engineering practice

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

Robots are my thing. If you love robots and have patience, take the class

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful: lectures: 2 readings: 2 recitations: 2 tutorials: 2 problem sets: 2 labs: 1

## PROBLEM SETS

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

N/A

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

## LAB WORK / DESIGN PROJECTS

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

This class is purely ~~rob~~ lab. That's where all the learning happens.

## READINGS

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

Don't really exist

## EXAMS AND QUIZZES

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

N/A

## RANTS AND RAVES

15. In summary, what are the best and worst aspects of this class?

### WHAT'S HOT?

Prof. Tetter & Roy  
Robots

### WHAT'S NOT?

Broken hardware  
Broken groups.

16. What do you think of the Underground Guide? Any suggestions for improvement?



# HKN Underground Guide Course Evaluation Form - Fall 2005

Subject Number: 16.401J RSSII  
Your Class: '09 '08 '07  '06 MEng G

Your Course: VI-1 VI-2 VI-3 VI-P (MEng) Other 16  
or  
Graduate Area: I II III IV V VII

## TIME COMMITMENT

1. How many hours **per week** do you spend on this subject:

Attending lectures, recitations, and tutorials: 2-3

Doing projects and labs: 6

Studying, reading, and completing problem sets: 2

How many hours did **each** problem set take? NA

111

2. What are the realistic prerequisites for taking this class? (classes, time, research experience, programming, mathematical background, etc.)

Some programming (java preferred), enthusiasm

## RATINGS

3. Overall Class Rating: 1=poor, 4=average, 7=exceptional

1 2 3 4 5  6 7

4. Difficulty Level: 1=trivial, 4=average MIT, 7=excruciating  
(how hard it makes you think, not how long it takes)

1 2 3 4  5 6 7

## TEACHING STAFF

5. For each member of the teaching staff who taught you, write the instructor's name, circle what the instructor taught, and rate the instructor on a scale where 1=poor, 4=average, and 7=excellent.

Name: \_\_\_\_\_ **Lecture Recitation Tutorial** Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_ **Lecture Recitation Tutorial** Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_ **Lecture Recitation Tutorial** Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

Name: \_\_\_\_\_ **Lecture Recitation Tutorial** Rating: 1 2 3 4 5 6 7  
Comment on teaching (presentation style, blackboard technique, clarity). Suggest improvements.

**SUBJECT CONTENT**

6. Comment on the content of this subject. (What do you learn in this subject? Does the subject's content match your expectations? Is there a good balance between application and theory? What are the subject's strong and weak points?)

How to merge code with reality, ✓✓✓

7. What are your reasons for taking this subject? Why should someone else take this subject? What advice would you give to friends planning to take this subject?

To appreciate the application of AI and challenge myself with real problems/research.

8. Please rank which aspects of the subject are most helpful to you in learning the material, where 1 is most helpful:

lectures: 2 readings: 3 recitations: / tutorials: / problem sets: / labs: 1

**PROBLEM SETS**

9. Comment on the problem sets. (How useful are they in learning the material? Are solutions distributed promptly? Are they clear?)

NA

10. To what extent do you collaborate on the problem sets? Is this helpful in learning the material?

NA

11. Do you use a bible (collection of homework and exams from a previous semester)? Do you recommend using one?

NA

**LAB WORK / DESIGN PROJECTS**

12. Comment on the labs and design projects. (How well do they help you learn the material? Are they reasonable in length? Is lab equipment reliable and accessible?)

Hands on learning is the only way to do this, but often HW would slow/inhibit progress.

**READINGS**

13. Comment on the textbook and class notes. (Do they exist? Are they useful?)

Class notes were good, depending on which area we focused on, we were able to concentrate on certain presentations and directly apply them to what we did.

**EXAMS AND QUIZZES**

14. Comment on exams and quizzes. (How well do they draw out your understanding of the material? What is essential for doing well on them? How do the quizzes compare to the problem sets and labs?)

NA

**RANTS AND RAVES**

15. In summary, what are the best and worst aspects of this class?

WHAT'S HOT?

Real research, great profs, cutting edge research with peers and experts together.

WHAT'S NOT?

Structure was tough to control. Lack of support for HW quizzes.

16. What do you think of the Underground Guide? Any suggestions for improvement?