Learning Goals

Students are most likely to say their learning goals have been met when

- The goals are clearly articulated in the syllabus and/or directly to students
- There’s a clear connection between the goals and the exams, quizzes, and/or assignments in the class
- Students have adequate practice doing work that is relevant to the goals

For information on writing effective learning goals, please see Writing Learning Goals (https://vptl.stanford.edu/teaching-learning/teaching-practices/evaluation/stanfords-new-course-evaluations/writing-learning).

How well did you achieve the learning goals of this course?

- Extremely well: 82%
- Very well: 12%
- Moderately well: 6%
- Slightly well: 6%
- Not well at all: 0%

Note: 5: Extremely well; 4: Very well; 3: Moderately well; 2: Slightly well; 1: Not well at all;

Attendance and Engagement
Student Learning

For information on factors that contribute to students’ learning, please see Interpreting Your Course Evaluation Report (https://vptl.stanford.edu/teaching-learning/teaching-practices/evaluation-feedback/stanfords-new-course-evaluations).

How much did you learn from this course?

<table>
<thead>
<tr>
<th>Question</th>
<th>Number of Responses</th>
<th>Response Rate</th>
<th>Course Mean</th>
<th>Course Median</th>
<th>STDEV</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much did you learn from this course?</td>
<td>17</td>
<td>94%</td>
<td>4.8</td>
<td>5</td>
<td>0.4</td>
<td>76%</td>
<td>24%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: 5:A great deal; 4:A lot; 3:A moderate amount; 2:A little; 1:Nothing;
Q: What skills or knowledge did you learn or improve?

1. General Hypersonic Knowledge
2. Fundamental understanding of hypersonic theory and viscous/thermochemical phenomena that can occur in various regions
3. I know a lot more about hypersonic flows, and the philosophy behind the design of hypersonic vehicles
4. Compressible flow in hypersonic limit, aerodynamic calculations of hypersonic bodies
5. I received a relatively brief overview of the essential questions in hypersonic flight, and I began to develop an intuition for this regime.
6. Hypersonic aerothermodynamics
7. A better understanding of the physical concepts involved in hypersonic flows
8. My knowledge and appreciation of the many complexities that must be taken into account in the hypersonic flow regime was greatly enhanced.
9. Hypersonic theory
10. Inviscid and viscous hypersonic flows, thermo-chemical effects and re-entry aeromechanics

Instruction and Organization

For information about effective teaching in a variety of contexts, please see Teaching Strategies (https://teachingcommons.stanford.edu/resources/teaching-resources/teaching-strategies).

Overall, how would you describe the quality of the instruction in this course?

- Excellent: 76%
- Good: 24%
- Fair: 0%
- Poor: 0%
- Very poor: 0%

How organized was the course?

- Extremely organized: 35%
- Very organized: 53%
- Moderately organized: 12%
- Slightly organized: 0%
- Not organized at all: 0%
Overall, how would you describe the quality of the instruction in this course?

<table>
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<tr>
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<td>17</td>
<td>94%</td>
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<td>0.4</td>
<td>76%</td>
<td>24%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>How organized was the course?</td>
<td>17</td>
<td>94%</td>
<td>4.2</td>
<td>4</td>
<td>0.6</td>
<td>35%</td>
<td>53%</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: 5: Excellent; 4: Good; 3: Fair; 2: Poor; 1: Very poor;

Course Elements

No Data.

Additional Student Comments

Answers to this question will be viewable by the Stanford student community four weeks after the release of reports to instructors. If you have a question about a comment, please review the guidelines under “Questions or concerns?” at http://evals.stanford.edu/results/respond-feedback (http://evals.stanford.edu/results/respond-feedback) and write to VPTLevaluations@stanford.edu (mailto:vptlevaluations@stanford.edu).

(12 comments)

Q: What would you like to say about this course to a student who is considering taking it in the future?

1. Its an awesome course.
2. Great course for understanding the difficulties of hypersonic flight and different phenomena that occur beyond the thermal barrier.
3. Its a very interesting course. Not very tough, but rewarding.
4. Wide coverage of many interesting topics in compressed lectures. This kind of material is not covered in any other course.
5. Brush up on your calculus and ODE because they will be essential to follow the lectures. The tests tend to be more math heavy than the home works.
6. This course is the best course I have taken thus far, so I would highly recommend taking it.
7. Prepare for the course by taking classes on compressible flows and PGD, and a lot will be learnt from the material.
8. If you are interested in aero and astrodynamics, and the implications of gas dynamics on them, this course is a must.
9. A very thorough and well taught course essential for future work in hypersonics.
10. Feels like a sequel to compressible flow class.
11. An amazing introduction to hypersonics that is extremely well taught.
It is a very interesting and useful class.

(12 comments)

**Q: Would you like to provide any other comments about this course?**

<p>| | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>I would like to see a part 2. Also, more homeworks/ more hypersonic question on exams....a lot of questions felt like they were asking math questions.</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Full understanding would be achieved with standard HW load.</td>
</tr>
<tr>
<td>4</td>
<td>This as a fantastic course, and I deeply enjoyed it!</td>
</tr>
<tr>
<td>5</td>
<td>I only wish there would be a part 2 of this course offered in the near future.</td>
</tr>
<tr>
<td>6</td>
<td>maybe spend less time on review of compressible flow (leave it as reading) and tackle right from the beginning the specifics of hypersonics. Would love to have a more advanced version of that course in terms of thermochemical effects.</td>
</tr>
<tr>
<td>7</td>
<td>A little too front-heavy</td>
</tr>
<tr>
<td>8</td>
<td>This was my favorite course I've taken at Stanford. I cannot commend enough Professor Urzay. The passion he brings to the subject and the thoroughness with which he explores topics are truly remarkable.</td>
</tr>
<tr>
<td>9</td>
<td>Would be nice to have a second hypersonics course that goes into more detail about the thermochemical effects</td>
</tr>
<tr>
<td>10</td>
<td>Thanks for the great course Javier! I really enjoyed it.</td>
</tr>
<tr>
<td>11</td>
<td>Newtonian theory working out well for hypersonics was very interesting.</td>
</tr>
<tr>
<td>12</td>
<td>This was the first time the course was taught, so organization/pacing could be better.</td>
</tr>
</tbody>
</table>

**Instructor Added Questions**

**Close-Ended Questions**

No Data.

Interpreting these results and deciding what changes you might want to make in your course can benefit greatly from a conversation with a colleague and/or a teaching consultant. To discuss your course evaluation feedback with a consultant in the Office of the Vice Provost for Teaching and Learning, please click here: VPTL Consultation Request Form (https://jfe.qualtrics.com/form/SV_78KTbL61clEWsO9)