

College of Engineering  
Bucknell University  
Residential Summer Enrichment Program

## Engineer Camp 2008

Topics in Engineering, Science, and Technology  
July 6<sup>th</sup> to 13<sup>th</sup>

### Program Description

The College of Engineering at Bucknell University invites you to Engineer Camp 2008. This program is an academically challenging, hands-on introduction to a variety of engineering disciplines, topics in technology, and how basic scientific phenomena are applied in engineering design. The curriculum includes classroom instruction, laboratory experiments, hands-on projects, and a variety of other challenging (and fun!) academic activities.

### Eligibility

All students who will have completed 7<sup>th</sup>, 8<sup>th</sup>, or 9<sup>th</sup> grade in June 2008 and are between the ages of 13 and 16 are eligible subject to review of academic records and teacher & guidance counselor recommendations.

### Benefits of Participation

This summer program is designed to prepare you for the college experience, with lectures by university professors, hands-on experience in the lab, and the opportunity to give presentations.

### Tuition & Financial Aid

Fees include tuition, laboratory and classroom supplies, housing, and all meals. Need-based financial assistance is available for those who qualify. Please email Erin Jablonski ([erin.jablonski@bucknell.edu](mailto:erin.jablonski@bucknell.edu)) for more information.

### How to Apply

A complete application includes the information form included here and completed recommendation forms from a teacher and a guidance counselor. Applications are due no later than March 14, 2008. Because enrollment in the program is limited to 24 students, you are encouraged to submit your application & recommendations as soon as possible. After 24 students have been accepted, additional applicants will be placed on a waiting list. Once your completed application is received you will be notified of acceptance by April 30th. At that time, additional information about the program will be sent to you.

### Payment

Personal checks will be accepted for tuition. All tuition must be paid before June 20<sup>th</sup>, 2008. Please do not send correspondence through the mail after June 20<sup>th</sup>. Any tuition remaining unpaid after June 20<sup>th</sup> must be paid in cash at the time of registration.

### *Typical Day*

7:30 AM Students are responsible for getting up and ready, eating, and getting to class on time.

8:30 – 11:30 AM Morning class time. Morning classes will be divided into several shorter periods.

11:30 AM – 12:50 PM Lunch. Students are escorted to lunch and given free time after eating. Students are responsible for returning to class on time.

1:00 – 4:30 PM Afternoon instruction, typically involving projects and/or laboratory experiences.

4:35 – 5:30 PM Activity. Students can participate in a number of athletic or other activities accompanied by a RA.

5:30 – 7:00 PM Dinner. Students eat and return to dorms accompanied by an RA.

7:00 – 8:00 PM Homework. Teaching assistants will be available.

8:00 – 9:30 PM Residential activities including movies, crafts, games, and yearbook.

9:30 – 10:30 PM Free time in halls. RAs are available to students for meetings.

10:30 PM Lights out.

### *Academic Expectations*

Students attending this program are expected to work to the best of their abilities. Students will be in class or lab from 8:30 – 11:30 am & 1:00 – 4:30 pm each weekday, and 9:30 – 11:00 am on Saturday. The academic schedule is designed to be rigorous but fun.

Students who consistently do not participate in class, do not turn in assignments, or purposefully and repeatedly disrupt the class will be subject to disciplinary action and could be asked to leave the program.

### *Homework Expectations*

Students will be expected to study / complete assignments for one hour each night. Teaching assistants will be provided to help with all out of class activities.

### *Housing & Meals*

Students will be housed in residence halls on Bucknell Campus with 24/7 supervision by Residential Assistants (RAs). Students' meals are provided by Bucknell Dining Services.

### *Residential Activities*

Students can learn a new sport or craft, or compete in educational games with other students. All activities will be supervised. Just a few examples of activities include: making an electronic year/facebook, scavenger hunts, science trivia night, and the math relays. Available sports include: swimming, tennis, basketball, soccer, kickball, etc.

### *Orientation / Opening Day July 6<sup>th</sup>*

On the first Sunday of the program, parents will drop off students at their assigned hall of residence. Students and parents will have move-in time from 1:00 – 3:00 pm on this day. From 3:00 – 5:00 pm, students and parents are invited to tour Bucknell campus, meet the academic staff, and ask questions. Parents will depart promptly at 5:00 pm, when students will go to the Opening Night Dinner.

### *Open House*

On the final day of the program, Sunday, July 13<sup>th</sup>, from 11:00 AM to 1:00 PM there will be an Open House for students and their families and friends. During this time, there will be a reception where students present posters on their research topic from the week.

Table 1. Overview Schedule for the Week

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	
7:30 - 8:30		BREAKFAST	BREAKFAST	BREAKFAST	BREAKFAST	BREAKFAST	BREAKFAST	Students check out of halls	
8:30 - 9:00		SEE DETAILED ACADEMIC SCHEDULE						BREAKFAST	
9:00 - 10:00		SEE DETAILED ACADEMIC SCHEDULE						CLASS	
10:00 - 11:00		SEE DETAILED ACADEMIC SCHEDULE						OPEN HOUSE	
11:00 - 11:30		SEE DETAILED ACADEMIC SCHEDULE						COMPLETE POSTERS FOR OPEN HOUSE	Students sign-out & depart
11:30 - 1:00		LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH		
1:00 - 2:00	Students register & move in	SEE DETAILED ACADEMIC SCHEDULE					COMPLETE POSTERS FOR OPEN HOUSE		
2:00 - 3:00	Parents, students meet staff	SEE DETAILED ACADEMIC SCHEDULE							
3:00 - 4:00		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY			
4:00 - 4:30		DINNER	DINNER	DINNER	DINNER	DINNER	DINNER		
4:30 - 5:00	ACTIVITY	HOMEWORK	HOMEWORK	HOMEWORK	HOMEWORK	HOMEWORK	ACTIVITY		
5:00 - 5:30		ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY	ACTIVITY			
5:30 - 7:00	FREE TIME	FREE TIME	FREE TIME	FREE TIME	FREE TIME	FREE TIME	Students Pack		
7:00 - 8:00									
8:00 - 9:30									
9:30 - 10:30									

Table 2. Detailed Academic Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul
8:30 - 9:00	Survey / Knowledge Inventory	Chemical Engineering	Mechanical Engineering	Electrical Engineering	Civil Engineering	Our nanoWorld How can we "see" atoms?
9:00 - 9:30	Overview for the Week	Biochemical / Food & Pharmaceutical Engineering	Industrial / Manufacturing Engineering	Electrons, Voltage, Current & Resistance	Engineering Triumphs	How big is a nanometer?
9:30 - 10:00	What is an Engineer?	Biomedical / Clinical Engineering	Conservation of mass & energy.	Power from Oil, Wind, Sun, Water	Engineering Disasters	Nanotechnology in our daily lives
10:00 - 10:30	Math, Physics, Chemistry, Biology Topics	Biomaterials / Tissue Engineering	How heat moves through objects.	Computer Engineering	Environmental Engineering	The Future of Nanotechnology
10:30 - 11:00	Math, Physics, Chemistry, Biology Topics	Genetic Engineering	Efficiency	Integrated Circuit Technology	The Impact of Technology	Admissions Staff Presentation: How to Choose the right College
11:00 - 11:30	Engineering Disciplines	Homework 1 Presentations	Homework 2 Presentations	Homework 3 Presentations	Homework 4 Presentations	
11:30 - 1:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1:00 - 1:30	Introduction to Experimentation (Safety, Rules, Etiquette)	Homework 1 Presentations	Homework 2 Presentations	Homework 3 Presentations	Homework 4 Presentations	Survey / Knowledge Inventory
1:30 - 4:30	Fun with Fluids	Materials	Manufacturing	Digital Circuits	Urban Planning	COMPLETE POSTERS FOR OPEN HOUSE

**Application for Bucknell Engineer Camp**

Please detach, complete and return to:

Professor Erin Jablonski, Department of Chemical Engineering, Bucknell University, Lewisburg, PA 17837

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Last Name                      First Name                      M.I.

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Email address: \_\_\_\_\_@\_\_\_\_\_

Date of Birth \_\_\_\_/\_\_\_\_/19\_\_\_\_ Gender:    M    F

Age on July 1, 2008: \_\_\_\_\_ Grade in Sept. '08: \_\_\_\_\_

Name & Location of your High School: \_\_\_\_\_

Teacher Providing Recommendation: \_\_\_\_\_

Guidance Counselor Providing Recommendation: \_\_\_\_\_

**Emergency Contact Information:**

Mother/Guardian Name: \_\_\_\_\_

H: (\_\_\_\_) \_\_\_\_ - \_\_\_\_              C: (\_\_\_\_) \_\_\_\_ - \_\_\_\_

Father/Guardian Name: \_\_\_\_\_

H: (\_\_\_\_) \_\_\_\_ - \_\_\_\_              C: (\_\_\_\_) \_\_\_\_ - \_\_\_\_



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*Teacher Recommendation*  
*Bucknell Engineering Summer Camp - 2008*

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Name of Applicant: \_\_\_\_\_

This student is applying to a one week residential academic camp to be held on the campus of Bucknell University. Students will be in class for 35-40 hours over seven days, and ...

Teacher's Recommendation

1. *In what capacity and for how long have you known the applicant? In which course(s) have you taught the applicant and when?*
  
  
  
  
  
  
  
  
  
  
2. *Please comment briefly on this student's academic strengths and motivations for participation in a summer academic program. To the extent possible, please assess the student's maturity, stability, independence, and ability to adjust to on-campus study.*

3. *Would you welcome this student as a participant on a program you were leading?*  
(Circle one)

Yes, without reservation

Yes, with reservations (please specify)

No

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name \_\_\_\_\_ School \_\_\_\_\_

Because admission will be on a rolling basis, please return this form or email your comments as soon as possible (but no later than March 14, 2008.)

Submit to:

Professor Erin Jablonski, Department of Chemical Engineering, Bucknell University, Lewisburg, PA, 17837 OR  
[erin.jablonski@bucknell.edu](mailto:erin.jablonski@bucknell.edu)



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*Guidance Counselor Approval Form  
Bucknell Engineering Summer Camp - 2008*

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Name of Applicant: \_\_\_\_\_

Grade in Sept. 2008: \_\_\_\_\_

To be completed by the guidance counselor:

\_\_\_\_\_ I approve of this student's plans to study in a residential summer academic program.

\_\_\_\_\_ I do not approve of this student's plans to study in a residential summer academic program.

\_\_\_\_\_ I approve with the following reservations:

Please comment on your impression of this student's ability to perform in a rigorous, academically challenging setting:

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name \_\_\_\_\_ School \_\_\_\_\_

Because admission will be on a rolling basis, please return this form or email your comments as soon as possible (but no later than March 14, 2008.)

Submit to:

Professor Erin Jablonski, Department of Chemical Engineering, Bucknell University, Lewisburg, PA, 17837 OR  
[erin.jablonski@bucknell.edu](mailto:erin.jablonski@bucknell.edu)