



2010 UWEB SUMMER RESEARCH EXPERIENCE FOR UNDERGRADUATES (REU)

From **June 14 to August 20, 2010**, the University of Washington Engineered Biomaterials (UWEB) program will sponsor a summer research program for undergraduate students on the university's Seattle campus. Students will participate in ongoing research projects with investigators and have the opportunity to take part in training sessions (i.e., communication class, journal club) designed to provide the undergraduate scientist with solid critical thinking and communication skills that will serve as a foundation for graduate study.

UWEB has a strong commitment to undergraduate education with a mission to increase diversity in the field of engineering. During the summer REU program, UWEB will take advantage of its unique interdisciplinary research environment at the biology and engineering interface to provide high quality research experiences for undergraduates from around the country. We strongly encourage women, under-represented minorities, and students with disabilities to submit applications.

Applications for the 2010 UWEB Summer Research Experience for Undergraduates Program (REU) must be received by **Monday, February 1, 2010**. Applications received after **February 1, 2010** will **not** be reviewed.

For more information, visit our website:

<http://www.uweb.engr.washington.edu/education/reu/index.html>

or contact:

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Seattle, WA 98195-5061
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About UWEB...



Biomaterials and medical devices are widely used in humans in applications as diverse as heart valves, hip joints, pacemakers, tooth implants, drainage shunts, intraocular lenses and heart assist devices. They save lives, improve the quality of life for millions, and form the basis for a strong, successful, humanitarian industry. However, these biomaterials and devices never work as well as the part they are intended to replace, leading to patient dissatisfaction, physician concern and a financial burden on the health care system.

University of Washington Engineered Biomaterials (UWEB) has a sharply focused objective: to develop a new generation of biomaterials that exploit specific biological recognition mechanisms. Such materials will be designed upon implantation to heal in the body in a facile, physiologically normal manner by interacting with specific cell receptors and initiating the desired biological responses. This is in contrast to existing biomaterials that are not recognized by the body and are walled off from the body.

UWEB and the Department of Bioengineering are located in the newly constructed Foege Building. Space totaling 123,000 ft² has been assigned to the Bioengineering Department. In addition to research laboratories, the Foege Building has a 1) bioengineering physiology teaching lab, 2) molecular bioengineering teaching lab, 3) instrumentation teaching lab, 4) centralized computer laboratories, 5) student workroom/lounge, 6) 60-seat seminar room, and 7) numerous smaller meeting rooms.

About the REU...

The University of Washington and the Department of Bioengineering in particular, have a well deserved reputation for promoting a richly collaborative research environment. UWEB will take advantage of these natural opportunities to expose undergraduate researchers to cutting-edge research at the biology and engineering interface in a team setting that stresses the value of interdisciplinary approaches to engineering problems such as biomaterial development.

The heart of the program is a carefully mentored research experience that teams the undergraduate with a graduate student and a professor. Teams will focus on a UWEB project that has been carefully selected as a good example of interdisciplinary research and one that has ties to industry research interests. For a list of participating labs see <http://www.uweb.engr.washington.edu/education/pdf/labs.pdf>.

REU Program Requirements...

Please read the following program requirements carefully before you complete the application form:

1. You **must** be a student at a college or university other than the University of Washington.
2. You **must** be a U.S. citizen or a permanent resident of the U.S. (or its possessions).
3. You **must** devote **40 hours per week** to the program.
4. You **cannot** enroll in classes or hold other jobs during the day. Participants will be paid a stipend and will not receive academic credit for the research experience.
5. You **must** attend the weekly communication classes, journal club meetings, and all other required lectures, seminars, focus groups, and workshops.
6. You **must** submit a research paper of journal article quality and participate in research symposiums at the end of the program.

What participants will receive...

1. Involvement in an interdisciplinary research project with a team where researchers are working together to solve a common science problem.
2. Lectures on ethics, communications skills, laboratory safety, and other selected topics.
3. An interactive poster session at the end of the summer, where undergraduate scholars present their results to the UWEB research community.
4. A final research symposium, where undergraduate researchers give a 15-minute oral presentation describing their work and results to the UWEB engineering community.
5. Publication of a journal article describing the REU student's research project in the *Journal of Undergraduate Research in Bioengineering (JURIBE)*.
6. A stipend of \$4,000.
7. Reimbursement of travel expenses to a maximum of \$600.
8. Housing on the University of Washington campus will be provided at no cost.
9. Opportunities to visit local bioengineering companies and research facilities.

Application information...

Application packets for the 2010 UWEB Summer REU Program must be received by **Monday, February 1, 2010**. Applications received after **Monday, February 1, 2010** will **not** be reviewed.

A complete application consists of:

1. A completed and signed 2010 UWEB Summer Research Experience for Undergraduates Program application form (see pages 5-6).

All questions must be answered fully for your application to receive consideration.

2. The essay questions must be typed.
3. **Two** references one of which must be an individual who can evaluate your potential in a laboratory setting. (Recommendation Forms are included in this packet, see pages 7-10.)
4. An official transcript of coursework from your current college or university. **Please note:** if you have completed coursework at another college or university that is not documented on your current transcript, and you would like to have this work considered by the review committee, you must submit additional transcripts.

Send the completed and signed application and transcript(s) to:

Ms. Janet Wilt
Undergraduate Program Coordinator
University of Washington – UWEB Education & Outreach
Box 355061, Foege Building, Room N361
1705 NE Pacific Street
Seattle, WA 98195-5061

Selection criteria will be based on the quality of the application written materials, letters of recommendation, and academic record. Appropriate science and mathematics courses are required for participants and it is expected that the majority of students will be academic sophomores and juniors who have completed basic chemistry, mathematics, and engineering coursework.

ESSAY QUESTIONS: PLEASE ANSWER EACH OF THE QUESTIONS BELOW. TYPE YOUR ANSWERS ON A SEPARATE SHEET OF PAPER. FOR EACH QUESTION, KEEP YOUR ANSWERS TO 1-2 SHORT, CONCISE PARAGRAPHS. **(Maximum: 2 pages total)**

1. What aspects of the UWEB Program sparked your interest? (For more information about the program, visit our web site at: <http://www.uweb.engr.washington.edu/education/>.)
2. Why do you think that the UWEB Summer REU Program is a good fit for you and your goals?
3. If accepted, what do you expect to gain from the program? What will you contribute?
4. Tell us something you believe to be unique about you (i.e., hardships you have overcome, a significant personal experience, etc.).

CERTIFICATION AND SIGNATURE

I certify that the information submitted in this application and associated materials are current, complete and accurate to the best of my knowledge.

SIGNATURE (INK ONLY)

DATE

Send your completed application with a copy of your official academic transcript from the college which you are currently attending (unofficial transcripts will not be accepted) to:

Janet Wilt
Undergraduate Program Coordinator
University of Washington – UWEB Education & Outreach
Box 355061, Foege Building, Room N361
1705 NE Pacific Street
Seattle, WA 98195-5061

NOTE: official academic transcripts may be mailed separately

Your complete application (application form, essay questions, official transcripts, all letters of recommendation) must be received by **Monday, February 1, 2010. Applications received after **Monday, February 1, 2010** will not be reviewed.**

If you have any questions, contact Janet Wilt at (206) 221-5829 or by e-mail at: wilt@uweb.engr.washington.edu.

**2010 University of Washington Engineered Biomaterials
Summer Research Experience for Undergraduates Program
RECOMMENDATION FORM**

To the applicant: Two references are required one of which must be an individual who can evaluate your potential in a laboratory setting. Print two copies of the Recommendation Form (pages 7-10). Please fill out the information in this box before this recommendation form is given to the person providing the reference.

Applicant's Name: _____

Applicant's Address: _____

Applicant's Phone #: _____

Applicant's Email Address: _____

To the person providing the reference: the UWEB REU program requires recommendation forms in order for the student's application to be complete. A letter of recommendation is optional and may be attached to the forms provided here. **Complete applications for the 2010 UWEB Summer REU Program must be received by Monday, February 1, 2010. Your completed form should be sent to:**

Janet Wilt
Undergraduate Program Coordinator
University of Washington – UWEB Education & Outreach
Box 355061, Foege Building, Room N361
1705 NE Pacific Street
Seattle, WA 98195-5061

Electronic submissions of letters of recommendation can be sent to wilt@uweb.engr.washington.edu; if an electronic letter is sent, please also send in page 8 of this application by regular mail.

If you have any questions, contact Janet Wilt at (206) 221-5829 or by e-mail at: wilt@uweb.engr.washington.edu.

1. How long have you known the applicant? _____
2. In what capacity have you known the applicant? _____
3. Please rate the applicant by circling the appropriate number which most accurately represents your opinion of the applicant in comparison with a representative group of individuals you have known who have had the same amount of education and experience.

	Unable to judge	Poor (Lowest 25%)	Fair (26-75%)	Excellent (76-90%)	Outstanding (Top 10%)
Intellectual ability	0	1	2	3	4
Motivation to pursue a research career	0	1	2	3	4
Work habits	0	1	2	3	4
General motivation	0	1	2	3	4
Leadership	0	1	2	3	4
Imagination/Creativity	0	1	2	3	4
Initiative	0	1	2	3	4
Ability to work with others	0	1	2	3	4
Maturity/Ability to take responsibility for actions	0	1	2	3	4
Ability to communicate (written)	0	1	2	3	4
Ability to communicate (spoken)	0	1	2	3	4

4. What do you consider to be the applicant's strongest characteristics?

5. What do you consider to be the applicant's weakest characteristics?

6. To your knowledge, are there any special circumstances relative to the applicant which should be considered during the evaluation of the student's credentials for this program?

7. Do you believe the academic record of the applicant is a true reflection of her/his intellectual ability?

_____ Yes

_____ No, please explain

8. In what ways do you believe the UWEB Summer REU Program can be of value to the applicant?
