

Appendix 1-D
APS Representative Examples of Informed Consent Forms

Technical Public Institution (administered by Urban Private University)

TPub Year 1.....D-2

Urban Private University

UPri Year 2.....D-6

Suburban Private University

SPri 9/26/03 to 5/29/04D-10

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Large Public University

L Pub General Consent Form, APSD-14

L Pub Consent Form, APS, Ethnographic Group.....D-17

L Pub Consent Form, APS, Observed Group (rev 05/08)D-24

Note: Informed Consent forms for Urban Private University and Technical Public Institution used the same text with the exception of the school name and other school-specific details.

**TECHNICAL PUBLIC INSTITUTION¹ PARTICIPANT CONSENT FOR
INVESTIGATIVE PROCEDURES
URBAN PRIVATE UNIVERSITY**

The following instruments, interviews, or procedures are needed for the research project entitled, “Scholarship on Learning Engineering Project.”

Instruments, Interviews, or Procedures to be Employed

- A. Surveys will be administered to participants in the observational group to ascertain information about students’ perceptions, experiences and motivations as an undergraduate engineering student.
- B. Individual interviews will be administered to participants in the observational group to obtain a deeper understanding of students’ perceptions, expectations, motivations, practices, and experiences in engineering.
- C. Ethnographies will be conducted on some participants in the observational group in order to obtain a general impression of undergraduate engineering student life.
- D. Student academic and admission records will be obtained for participants in the observational group.
- E. Student academic and admission records will be obtained for participants in the control group.

Explanation to Participants

You are invited to participate in a national research study funded by the National Science Foundation (NSF). The purpose of this study is to gain an in-depth understanding of how engineering students explore and utilize the educational opportunities available to them in college, plan and carry out their curriculums (successfully or unsuccessfully), and navigate the process of becoming engineers. The study will take place over a period of three years, between Fall 2003 and Spring 2006. You will not need to do any more or less work in your classes because you have agreed to participate in this study. Nor will you be asked to perform differently than you would if you did not participate in this study. As discussed in the information meeting, a combination of the following methods will be used in the study to capture different aspects of your experience as an engineering student. These methods and procedures are as follows:

You will be asked to:

- 1) Complete two 2-hour Internet-based questionnaires in which you will be requested to provide some information about your experiences and motivations as an undergraduate engineering student.
- 2) Participate in a 2-hour interview per year in which a trained observer will ask of you standardized questions regarding your experiences and motivations as an undergraduate

¹ Informed consent for Technical Public Institution (TPub) was administered by Urban Private University because TPub does not have its own IRB office.

engineering student. These interviews will be audio taped. The audiotapes will be destroyed five years after the study is completed.

- 3) Participate in a series of non-intrusive observations in which a trained observer will accompany you for no more than 2 hours a week in various academic (e.g., lectures, study groups) and as well as non-academic settings (e.g., dormitory, extracurricular activity settings) in order to obtain a general impression of undergraduate engineering student life. Observations will be recorded in field notes and through the occasional use of digital photography, audiotape, and videotape. Photos and videos taken of the activity being conducted will feature only the individual's body and not his or her face. The digital photography, audiotapes, and videotapes will be destroyed five years after the study is completed.
- 4) Authorize access to your academic information maintained by the university registrar, such as SAT scores, high school GPA, college transcripts, gender, and ethnicity. This information will be kept in strictest confidence and will only be used for research purposes.

There is some risk associated with all research. However, the risks to you are no greater than would be expected from participation in any educational research activity. The potential risks are the inappropriate use of the information that is collected and uneasiness from participation in the interview and observation processes. To protect against these potential risks, the research personnel have signed a confidentiality agreement that limits access and use of all study data. Moreover, the trained interviewers and observers will take extra precaution to ensure that you are as comfortable as possible.

There are a number of benefits for participating in this study. The study seeks to identify and characterize the pathways for making the choice of becoming an engineer. You will have an opportunity to contribute your experiences in this process. This understanding will enable the engineering community to pinpoint and clearly define areas in engineering education, where additional work is needed for improvement.

You will be compensated in cash for participating in this study. Legally, you are only eligible for compensation if you are a U.S. citizen, a legal resident alien (i.e., possess a "green" card), or have a work eligible visa sponsored by the paying institution. The amount of compensation will depend on your level of participation. There will be two groups of participants: an observational group and a control group. Observational group participants will be compensated \$175.00 per year for participating in a combination of survey, interview, and observation methods. Observational group participants will also be given a scientific calculator during the spring semester of the first year. Control group participants will be compensated \$25.00 per year for authorizing access to student admission and registrar records. Annual payments will be made at the end of spring semester upon continuous participation for that school year. There will be an equal number of participants in each group. However, if you chose to participate, it is not possible to know which group you will be assigned to before the researchers have obtained consent from all potential participants.

All information we gather on this project will remain strictly anonymous and will not identify you in any way. The interview sessions will be audio taped, and the ethnographic sessions will

be audio taped, photographed, and videotaped so that we can review them later. However, all identifying information will be removed and replaced by code numbers. Participant codes will be kept in a logbook, which will be stored in a locked file cabinet separate from the actual data information. We will keep all materials in a secure place in our university office. Information will be reported based on group profiles and averages, and not on individual responses. At no time will information be reported or identified with the participant's name, guaranteeing that the privacy of all participants will be protected. All information that we gather will be destroyed by December 2012.

Your participation in this project is completely voluntary, so you can stop taking part at any time without jeopardizing your relationship with the university institution, engineering department, project researchers, or related staff.

Participant's Statement of Understanding

I may be asked to participate in several activities throughout the school year, such as surveys, interviews, and observations, as well as authorize access to my academic admission and registrar records for research purposes only.

Some of the tests or procedures described may be novel or experimental, but they do not involve any risk(s) other than those described above. In the event of physical or other injury resulting from the research tests or procedures, emergency medical treatment will be provided, but financial compensation will not be available.

With this knowledge and the above description of the project, I voluntarily agree to take part, accepting the risk(s) of my participation in this project. I further understand that all reasonable precautions have and will be taken to reduce the risks(s) and to provide for my care.

I am aware that I am free to withdraw this consent and discontinue participation in this project at any time without affecting either my ability to receive on-going care or my relationship with Technical Public Institution or Urban Private University.

The Principal Investigator or Project Researcher, at Technical Public Institution may be contacted at [phone #] in the event that I have any questions regarding my participation in this project. The Urban Private University Institutional Review Board will have access to the records of this project. If I have questions regarding my rights as a study participant that I would like to discuss with someone other than the investigators on this project, I am free to contact the Office of Executive Secretary, Urban Private University Institutional Review Board at [phone #].

The study described above has been explained to me. My willingness to participate is indicated below. (Please check appropriate box.)

**I do not wish to participate in this activity. In order for us to ensure that you will not be contacted again, please provide your name here: _____
(Please do not read any further. Thank you for your time and consideration.)**

I voluntarily consent to participate in this activity. I have had an opportunity to ask questions. I give permission for the study team to use my responses in research. (Please proceed to the following sections).

I give consent to be interviewed during this study. (Please initial):__ Yes____ _ No

I give consent for my interview to be audio taped. (Please initial):__ Yes____ No

I give consent for the responses I provide during the interviews and surveys to be used for research purposes in this study. (Please initial): _____Yes _____ No

I give consent to be observed during this study. (Please initial): ____Yes____ No

I give consent for my observation to be audio taped, photographed, and videotaped. I understand that my face will not be shown in any photograph or videotape. (Please initial): ____Yes____
No

I give consent for my photographed, and videotaped observation to be used during presentations concerning the research, such as at a professional conference. (Please initial): ____Yes____
No

I give consent for my academic records to be used for research purposes in this study.

(Please initial): ____Yes _____ No

I have read the above description of the research project. A member of the research team has answered all of my questions to my satisfaction. I agree to participate in the above-referenced project. I acknowledge that I have received a personal copy of this consent form.

Participant's Signature _____ Date _____

I, the undersigned, have defined and fully explained the tests and procedures involved in this study to the above participant.

Researcher's Signature _____ Date _____

Witness' Signature _____ Date _____

**URBAN PRIVATE UNIVERSITY PARTICIPANT CONSENT FOR
INVESTIGATIVE PROCEDURES
URBAN PRIVATE UNIVERSITY**

The following instruments, interviews, or procedures are needed for the research project entitled, “Scholarship on Learning Engineering Project.”

Instruments, Interviews, or Procedures to be Employed

- A. Surveys will be administered to participants in the observational group to ascertain information about students’ perceptions, experiences and motivations as an undergraduate engineering student.
- B. Individual interviews will be administered to participants in the observational group to obtain a deeper understanding of students’ perceptions, expectations, motivations, practices, and experiences in engineering.
- C. Ethnographies will be conducted on some participants in the observational group in order to obtain a general impression of undergraduate engineering student life.
- D. Student academic and admission records will be obtained for participants in the observational group.
- E. Student academic and admission records will be obtained for participants in the control group.

Explanation to Participants

You are invited to participate in a national research study funded by the National Science Foundation (NSF). The purpose of this study is to gain an in-depth understanding of how engineering students explore and utilize the educational opportunities available to them in college, plan and carry out their curriculums (successfully or unsuccessfully), and navigate the process of becoming engineers. The study will take place over a period of three years, between Fall 2003 and Spring 2006. You will not need to do any more or less work in your classes because you have agreed to participate in this study. Nor will you be asked to perform differently than you would if you did not participate in this study. As discussed in the information meeting, a combination of the following methods will be used in the study to capture different aspects of your experience as an engineering student. These methods and procedures are as follows:

You will be asked to:

- 1) Complete two 2-hour Internet-based questionnaires in which you will be requested to provide some information about your experiences and motivations as an undergraduate engineering student.

- 2) Participate in a 2-hour interview per year in which a trained observer will ask of you standardized questions regarding your experiences and motivations as an undergraduate engineering student. These interviews will be audio taped.
- 3) Participate in a series of non-intrusive observations in which a trained observer will accompany you for no more than 2 hours a week in various academic (e.g., lectures, study groups) and as well as non-academic settings (e.g., dormitory, extracurricular activity settings) in order to obtain a general impression of undergraduate engineering student life. Observations will be recorded in field notes and through the occasional use of digital photography, audiotape, and videotape. Photos and videos taken of the activity being conducted will feature only the individual's body and not his or her face.
- 4) Authorize access to your academic information maintained by the university registrar, such as SAT scores, high school GPA, college transcripts, gender, and ethnicity. This information will be kept in strictest confidence and will only be used for research purposes.

There is some risk associated with all research. However, the risks to you are no greater than would be expected from participation in any educational research activity. The potential risks are the inappropriate use of the information that is collected and uneasiness from participation in the interview and observation processes. To protect against these potential risks, the research personnel have signed a confidentiality agreement that limits access and use of all study data. Moreover, the trained interviewers and observers will take extra precaution to ensure that you are as comfortable as possible.

There are a number of benefits for participating in this study. The study seeks to identify and characterize the pathways for making the choice of becoming an engineer. You will have an opportunity to contribute your experiences in this process. This understanding will enable the engineering community to pinpoint and clearly define areas in engineering education, where additional work is needed for improvement.

You will be compensated in check for participating in this study. Legally, you are only eligible for compensation if you are a U.S. citizen, a legal resident alien (i.e., possess a "green" card), or have a work eligible visa sponsored by the paying institution. There will be one group of participants: an observational group. Observational group participants will be compensated \$175.00 per year for participating in a combination of survey, interview, observation methods, and review of academic information. Annual payments will be made at the end of spring semester upon continuous participation in surveys and interviews for that school year.

All information we gather on this project will remain strictly anonymous and will not identify you in any way. The interview sessions will be audio taped, and the ethnographic sessions will be audio taped, photographed, and videotaped so that we can review them later. However, all identifying information will be removed and replaced by code numbers. Participant codes will be kept in a logbook, which will be stored in a locked file cabinet separate from the actual data information. We will keep all materials in a secure place in our university office. (All encryption documents relating your randomly generated ID codes to your identity will be destroyed by December 2012. Data files will be archived until they are no longer needed.) At no time will information be reported or identified with the participant's name, guaranteeing that the privacy of all participants will be protected.

Your participation in this project is completely voluntary, so you can stop taking part at any time without jeopardizing your relationship with the university institution, engineering department, project researchers, or related staff.

Participant's Statement of Understanding

I may be asked to participate in several activities throughout the school year, such as surveys, interviews, and observations, as well as authorize access to my academic admission and registrar records for research purposes only.

Some of the tests or procedures described may be novel or experimental, but they do not involve any risk(s) other than those described above. In the event of physical or other injury resulting from the research tests or procedures, emergency medical treatment will be provided, but financial compensation will not be available.

With this knowledge and the above description of the project, I voluntarily agree to take part, accepting the risk(s) of my participation in this project. I further understand that all reasonable precautions have and will be taken to reduce the risks(s) and to provide for my care.

I am aware that I am free to withdraw this consent and discontinue participation in this project at any time without affecting either my ability to receive on-going care or my relationship with Urban Private University.

The Principal Investigator or Project Researcher, may be contacted at [phone #] in the event that I have any questions regarding my participation in this project. The Urban Private University Institutional Review Board will have access to the records of this project. If I have questions regarding my rights as a study participant that I would like to discuss with someone other than the investigators on this project, I am free to contact the Office of Executive Secretary, Urban Private University Institutional Review Board at [phone #].

The study described above has been explained to me. My willingness to participate is indicated below. (Please check appropriate box.)

- I do not wish to participate in this activity. In order for us to ensure that you will not be contacted again, please provide your name here: _____**
(Please do not read any further. Thank you for your time and consideration.)
- I voluntarily consent to participate in this activity. I have had an opportunity to ask questions. I give permission for the study team to use my responses in research.**
(Please proceed to the following sections).

I give consent to be interviewed during this study. (Please initial): ___ Yes ___ No

I give consent for my interview to be audio taped. (Please initial): ___ Yes ___ No

I give consent for the responses I provide during the interviews and surveys to be used for research purposes in this study. (Please initial): ___ Yes ___ No

I give consent to be observed during this study. (Please initial): ___ Yes ___ No

I give consent for my observation to be audio taped, photographed, and videotaped. I understand that my face will not be shown in any photograph or videotape. (Please initial): ___ Yes ___ No

I give consent for my photographed, and videotaped observation to be used during presentations concerning the research, such as at a professional conference. (Please initial): ___Yes___No
I give consent for my academic records to be used for research purposes in this study.

(Please initial): ___Yes ___ No

I have read the above description of the research project. A member of the research team has answered all of my questions to my satisfaction. I agree to participate in the above-referenced project. I acknowledge that I have received a personal copy of this consent form.

Participant's Name (Print)_____

Participant's Signature _____ Date _____

I, the undersigned, have defined and fully explained the tests and procedures involved in this study to the above participant.

Researcher's Signature _____ Date _____

Witness' Signature _____ Date _____

NSF Center for the Advancement of Engineering Education
CONSENT FORM: Longitudinal Study

FOR QUESTIONS ABOUT THE STUDY, CONTACT: Project Researcher at Suburban Private University [contact information].

DESCRIPTION:

You are invited to participate in a national research study funded the National Science Foundation (NSF), which aims to gain an in-depth understanding of how engineering students explore the educational opportunities available to them in college, plan and carry out their curriculums (successfully or unsuccessfully), and become engineers. The study will take place between Fall 2003 and Spring 2006. You will not need to do any more or less work in your classes because you have agreed to participate in this study, nor will you be asked to perform differently than you would if you did not participate. As discussed in the information meeting, a combination of the following methods will be used in the study to capture different aspects of your experience as a student who is planning to major in engineering:

- 1) One 2 hour interview per year, in which a trained observer will ask of you standardized questions regarding your experiences and motivations as an undergraduate pre-engineering student. The interviews will be audiotaped.
- 2) Two 2 hour internet-based questionnaires, where you will be requested to provide some information about your experiences and motivations as an undergraduate pre-engineering student.
- 3) A series of non-intrusive observations in which a trained researcher will accompany you for no more than 2 hours a week in various academic (e.g., lectures, study groups) and as well as non-academic settings (e.g., dormitory, extracurricular activity settings) in order to obtain a general impression of undergraduate pre-engineering student life. The researcher will take notes and occasional photographs in order to document his/her observations, and might ask informal questions.
- 4) Access to your academic information maintained by the university registrar such as your SAT scores, high school GPA, college transcripts, gender, and ethnicity. This information will be kept in strictest confidence and will only be used for research purposes.

All information collected will be kept confidential, and accessed only by authorized researchers who have signed a confidentiality agreement. To better preserve your privacy, a random identification code will be used in place of your name during the study. This is the same code that will be used in the interviews and questionnaires you have been asked to participate in.

RISKS :

The potential risk is the inappropriate use of the information that is collected. To guard against this, the research personnel have signed a confidentiality agreement that limits access and use of data. (All encryption documents relating your randomly generated ID codes to your identity will be destroyed by December 2012. Data files will be archived until they are no longer needed.) Also, some people feel self-conscious when they are observed for the purposes of a study.

BENEFITS:

The study seeks to identify and characterize the pathways for making the choice of becoming an engineer. This understanding will enable the engineering community to pinpoint and clearly define areas in engineering education, where additional work is needed for improvement.

PAYMENTS:

You will be compensated in cash. Legally, you can be paid only if you are a US citizen, a legal resident alien (i.e, possess a "green" card), or have a work eligible visa sponsored by the paying institution. The amount of compensation will depend on your level of participation. There will be two groups of

participants: a detailed study group, and a control group. Detailed study participants will be observed through a combination of any of the four methods described in the “description” section of this form, and compensated \$175 per year. **Detailed group participants will also be given a scientific calculator during the winter quarter of the first year.** Control study participants will be observed through the fourth method only, and compensated \$25 per year. Annual payments will be made at the end of spring quarter upon continuous participation for that school year. There will be an equal number of participants in each group. However, if you chose to participate, it is not possible to know which group you will be in before the researchers obtain consent from all interested students.

SUBJECT’S RIGHTS:

If you have read this form and have decided to participate in this project, please understand that your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. You have the right to refuse to participate in studies involving a particular method. You also have the right to refuse to answer particular questions. Your individual privacy will be maintained in all published and written information resulting from the study.

If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish - the Institutional Review Board, Suburban Private University [contact information].

The study described above has been explained to me. My willingness to participate is indicated below. (Please check appropriate box.)

I do not wish to participate. I do not wish to participate in this activity. In order for us to ensure that you will not be contacted again, please provide your name here: _____ (Please do not read any further. Thank you for your time and consideration.)

I wish to participate. I voluntarily consent to participate in this activity. I have had an opportunity to ask questions. I give permission for the study team to use my responses in research. (Please proceed to the following sections).

I give consent to be interviewed and audiotaped during this study.(Please initial): ____Yes ____ No

I give consent for the responses I provide during the interviews and surveys, and the photographs taken during the observations to be used for research purposes in this study. (Please initial): ____Yes ____ No

I give consent to be observed and photographed during this study. (Please initial): ____Yes ____ No

I give consent for my academic records to be used for research purposes in this study.

(Please initial): ____Yes ____ No

I have read the above and give my consent to participate in this study.

NAME _____ STUDENT ID# _____

SIGNATURE _____ DATE _____

The extra copy of this consent form is for you to keep.

Approval Date: 9/26/2003

Expiration Date: 5/29/2004

NSF Center for the Advancement of Engineering Education

CONSENT FORM: Longitudinal Study

FOR QUESTIONS ABOUT THE STUDY, CONTACT: Project Researcher at Suburban Private University [contact information].

DESCRIPTION:

You are invited to participate in a national research study funded the National Science Foundation (NSF), which aims to gain an in-depth understanding of how engineering students explore the educational opportunities available to them in college, plan and carry out their curriculums (successfully or unsuccessfully), and become engineers. The study will take place between Fall 2003 and Spring 2007. You will not need to do any more or less work in your classes because you have agreed to participate in this study, nor will you be asked to perform differently than you would if you did not participate. As discussed in the information meeting, a combination of the following methods will be used in the study to capture different aspects of your experience as a student who is planning to major in engineering:

- 1) Interviews in which a trained observer will ask you standardized questions regarding your experiences and motivations as an undergraduate pre-engineering student. The interviews will be audiotaped.
- 2) Internet-based questionnaires where you will be requested to provide some information about your experiences and motivations as an undergraduate pre-engineering student.
- 3) A series of non-intrusive observations in which a trained researcher will accompany you for no more than 2 hours a week in various academic (e.g., lectures, study groups) and as well as nonacademic settings (e.g., dormitory, extracurricular activity settings) in order to obtain a general impression of undergraduate pre-engineering student life. The researcher will take notes, and if you permit, occasional photographs, in order to document his/her observations. The researcher might ask informal questions, which will be audiotaped if you agree.
- 4) Access to your academic information maintained by the university registrar such as your SAT scores, high school GPA, college transcripts, gender, and ethnicity. This information will be kept in strictest confidence and will only be used for research purposes.

All information collected will be kept confidential, and accessed only by authorized researchers who have signed a confidentiality agreement. To better preserve your privacy, a random identification code will be used in place of your name during the study. This is the same code that will be used in the interviews and questionnaires you have been asked to participate in. All documents that can be used to decrypt your identification code will be destroyed by 2012. The original data files (any audiotapes, survey responses, photographs) will be archived until the Faculty Investigator decides that they are no longer needed.

RISKS :

The potential risk is the inappropriate use of the information that is collected. To guard against this, the research personnel have signed a confidentiality agreement that limits access and use of data. (All encryption documents relating your randomly generated ID codes to your identity will be destroyed by December 2012. Data files will be archived until they are no longer needed.) Also, some people feel self-conscious when they are observed for the purposes of a study.

BENEFITS:

The study seeks to identify and characterize the pathways for making the choice of becoming an engineer. This understanding will enable the engineering community to pinpoint and clearly define areas in engineering education, where additional work is needed for improvement.

PAYMENTS:

You will be compensated by check. Legally, you can be paid only if you are a US citizen, a legal resident alien (i.e., possess a "green" card), or have a work eligible visa sponsored by the paying institution. The amount of compensation will depend on your level of participation. Participants will be observed through a combination of any of the four methods described in the "description" section of this form, and compensated \$175 per year. Annual payments will be made at the end of spring quarter upon continuous participation for that school year. There will be an equal number of participants in each group. However, if you chose to participate, it is not possible to know which group you will be in before the researchers obtain consent from all interested students.

SUBJECT'S RIGHTS:

If you have read this form and have decided to participate in this project, please understand that your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. You have the right to refuse to participate in studies involving a particular method. You also have the right to refuse to answer particular questions. Your individual privacy will be maintained in all published and written information resulting from the study.

If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish - the Institutional Review Board, Suburban Private University [contact information].

The study described above has been explained to me. My willingness to participate is indicated below. (Please check appropriate box.)

I do not wish to participate. I do not wish to participate in this activity. In order for us to ensure that you will not be contacted again, please provide your name here: _____
(Please do not read any further. Thank you for your time and consideration.)

I wish to participate. I voluntarily consent to participate in this activity. I have had an opportunity to ask questions. I give permission for the study team to use my responses in research. (Please proceed to the following sections).

I give consent to be interviewed during this study.(Please initial): ____Yes ____ No

I give consent to be audiotaped during this study.(Please initial): ____Yes ____ No

I give consent to be observed during this study. (Please initial): ____Yes ____ No

I give consent to be photographed during this study. (Please initial): ____Yes ____ No

I give consent for my academic records to be used for research purposes in this study.

(Please initial): ____Yes ____ No

I give consent for the responses I provide during the interviews and surveys, and the photographs taken during the observations to be used for research purposes in this study. (Please initial): ____Yes ____ No

I have read the above and give my consent to participate in this study.

NAME _____ STUDENT ID# _____

SIGNATURE _____ DATE _____

The extra copy of this consent form is for you to keep.

Approval Date: 4/28/2006

Expiration Date: 4/28/2007

**LARGE PUBLIC UNIVERSITY
GENERAL CONSENT FORM
ACADEMIC PATHWAYS STUDY**

[list of investigators with contact information]

INVESTIGATORS' STATEMENT

Purpose and Benefits

We are engaged in an ongoing study to learn more about how engineering students explore the educational opportunities available to them in college, plan and carry out their curricula, and become engineers. We hope that the results of this study will help the engineering education community to improve the design of curriculum and teaching methods in order to help students to succeed in becoming engineers. You might not benefit directly from this study.

Procedures

This research is being conducted by researchers at Large Public University. Part of the data collection for the study involves observation and videotaping of the academic work of undergraduate engineering students. You will not need to do any more or less work in your classes because you have agreed to participate in this study, nor will you be asked to perform differently than you would if you did not participate. We are asking for your consent to collect the following forms of data:

1. Videotape of your participation in today's observational session. These videotapes will be kept by the researchers until December of 2012, to be used for research purposes only.
2. Copies of written work, such as sketches and equations, that you produce or use during this observational session.

All data collected will be kept confidential, and accessed only by authorized researchers who have signed a confidentiality agreement. Your name will not appear in transcriptions of the videotapes. If we publish the results of this study we will not use your name.

You can request that we terminate the recording at any time and for any reason. You also have the option of reviewing the recording, and deleting all or part of it.

We sometimes use recordings to make academic presentations. In the event that we plan to use a video recording of today's session in such a presentation, we will mask your identity by electronic means. These electronic means will eliminate all instances in which non-subjects are directly identifiable. This is possible because we are using digital media to make these recordings, and these media make this masking process relatively easy.

Risks, Stress, or Discomfort

Some people might feel stress or discomfort as a result of the invasive nature of the research procedures.

Some people might feel concerned that confidential information will be used inappropriately. To guard against this, all research personnel have signed a confidentiality agreement that limits access and use of data.

Some people might feel uncomfortable being observed and video recorded for the purposes of a study. We want to reiterate that you can request that we terminate the recording at any time and for any reason, and that you also have the option of reviewing the recording, and deleting all or part of it.

Other information

You must be at least 18 years of age to participate in this research.

Participation in this study is voluntary. At any time during the study you may choose to stop participating. You can ask us to stop videotaping at any time, for any reason. You can ask us to terminate the observation at any time, for any reason. If you decide to stop participating, this will have no adverse effect on your course grades or your standing in school.

If you have read this form and have decided to participate in this project, please understand that your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. You have the right to refuse to participate in studies involving a particular method. Your individual privacy will be maintained in all published and written information resulting from the study.

SUBJECT'S STATEMENT

The study described above has been explained to me. My willingness to participate is indicated below. (Please check appropriate box.)

I do not wish to participate. I do not wish to participate in this study. In order for us to ensure that you will not be contacted again, please provide your name here: _____

I wish to participate. I voluntarily consent to participate in this study. I have had an opportunity to ask questions. I give permission for the study team to use my responses in research. I understand that future questions I may have about the research or about my rights as a subject will be answered by one of the investigators listed above. (Please proceed to the following items 1-3.)

1. I give consent to be observed during this study. I understand that some of my activity will be videotaped, and I consent to this. I understand that I will have the opportunity to review and edit the recording. I also understand that these tapes and photographs will be retained by the researchers until December, 2012, to be used for research purposes only.

Please initial: _____ Yes _____ No

2. I give consent for videotapes resulting from my participation in this study to be used in academic publications and presentations.

Please initial: _____ Yes _____ No

3. I give consent for samples of my written work to be used for research purposes in this study.

Please initial: _____ Yes _____ No

I have read the above and give my consent to participate in this study.

NAME _____

SIGNATURE _____

DATE _____

The extra copy of this consent form is for you to keep.

cc: Participant
Investigator's file

**LARGE PUBLIC UNIVERSITY
CONSENT FORM
ACADEMIC PATHWAYS STUDY, ETHNOGRAPHIC GROUP**

[list of investigators and contact information]

INVESTIGATORS' STATEMENT

We are asking you to take part in a research study. The purpose of this consent form is to give you the information you will need before you decide whether or not to take part in this study. Please read this form carefully. You may ask questions about what we will ask you to do, the risks, the benefits, your rights as a volunteer, or anything else about the research or this form that is not clear. When all your questions have been answered, you can decide if you want to take part or not. This process is called "informed consent." We will give you a copy of this form for your records.

Purpose of the Study

We want to know more about how engineering students explore the educational opportunities available to them in college, plan and carry out their curricula, and become engineers.

Procedures

You have been selected as a participant in the Ethnographic group of the study. Data collection for the study will take place between Fall 2003 and Spring 2009, and will be conducted by researchers at Large Public University, Technical Public Institution, Urban Private University, and Suburban Private University.

General Procedures:

You will not need to do any more or less work in your classes because you have agreed to participate in this study, nor will you be asked to perform differently than you would if you did not participate. The following forms of data will be used to study different aspects of your experience as a student who is planning to major in engineering:

- 1) Academic information maintained by the university registrar, including your college transcripts, SAT scores, high school GPA, gender, and ethnicity. This information will be kept in strictest confidence and will only be used for research purposes.
- 2) Two 2-hour internet-based questionnaires, in which you will be asked to provide some information about your experiences and motivations as an undergraduate engineering student. Some questions on these questionnaires will be of a personal and potentially sensitive nature, including questions about your ethnicity, about your parents' education and income levels, and about how much time you spend studying. You do not have to answer any questions you do not wish to answer.
- 3) One formal audio taped interview per year for each of the three years of the study, each of which will take approximately 2 hours, in which a trained interviewer will ask a series of questions regarding your experiences and motivations as an undergraduate engineering student. Audio tapes of these interviews will be kept by the researchers for 10 years, until December of 2012, to be used for research purposes only. Some questions in these questionnaires will be of a personal

and potentially sensitive nature, including questions about your family background and its relationship to decisions you make about your education and career, about difficulties you might have in your coursework, and about how your relationships with friends, family, peers at school, and faculty relate to your performance in school and your career choices. You do not have to answer any questions you do not wish to answer.

- 4) A series of observations in which a trained observer will accompany you for an average of approximately 2 hours per week in various academic settings (e.g., lectures, study groups) and academically-oriented extracurricular settings (e.g., College of Engineering Sponsored workshops, engineering student society meetings) in order to obtain a general impression of undergraduate engineering student life. Some of these observations may be audio taped, video taped, and/or photographed. Audio tapes, video tapes, and photographs resulting from your participation will be kept by the researchers for 10 years, until December of 2012, to be used for research purposes only.
- 5) Periodic brief interviews in which a trained observer, based on the observations made in 4) above, which will explore in more detail your experiences and motivations as an undergraduate engineering student. These interviews may be audio taped, video taped, and/or photographed. Audio tapes, video tapes, and photographs of these interviews will be kept by the researchers for 10 years, until December of 2012, to be used for research purposes only.
- 6) Samples of your written coursework, such as homework, project reports, and examinations.
- 7) In some cases when research participants are no longer in the immediate area, or are unavailable to be present for a face-to-face interview, we will conduct interviews over the phone. These interviews will be recorded.

Procedures for observing and recording activities:

We will conduct observations only on campus and only of academically oriented activities. These can include both curricular (e.g., lectures, project meetings) and extracurricular (e.g., undergraduate engineering societies, College of Engineering sponsored workshops) activities. We anticipate video recording a small percentage of the activities that we observe – probably less than ten percent of the total observation time will be video recorded.

You will have an important role in determining the time, place, and nature of the observation settings. We will consult with you each week on where and when that week's observation will take place. We will solicit your opinion on what settings and what activities might be interesting and appropriate for us to observe.

You will always know in advance that an observation will be taking place – we will not show up unannounced. A day before a scheduled observation, we will remind you via your preferred means of communication (e.g., phone or email) that the observation will take place.

You will always know in advance whether or not we plan to tape during a given observation – we will not tape without having arranged this with you in advance.

You will always have the option to ask us not to observe and/or to record a given activity. You may decline our suggestion to be observed and/or taped at a particular time or place, and you may cancel a scheduled observation for any reason and at any time, including after the observation has begun. In addition, you may ask us to discontinue taping for any reason and at any time. We will always comply with such requests immediately.

Procedures for storing and accessing data:

All data collected, with the exception of video recordings, will be stored in a secure, password-protected database at Suburban Private University and will be shared with the researchers at the other 3 institutions.

All data will be kept confidential, and accessed only by authorized researchers at the four participating schools who have signed a confidentiality agreement. To better protect your privacy, we will generate a unique identification code that will be used in place of your name during the study. If we publish the results of this study we will not use your name. We will destroy the link between the data for this study and your name by December 2012.

Whenever possible, we will remove identifying information from data collected from you. Your name and other identifying information will be removed from student records, surveys, transcripts of interviews, fieldnotes, and work samples. Removal of identifying information from these forms of data will take place as soon as possible after collection, and always before storage in the database.

You will remain identifiable in some of the data that we will collect during this study. This includes audio and video recordings, and photographs. Information relevant to our procedures for identifiable data follows.

Audio recordings and photographs will be stored in the database at SPri, and will be accessible to faculty and student researchers involved in the Academic Pathways Study. This includes researchers from Large Public University, Technical Public Institution, Urban Private University, and Suburban Private University.

Video recordings will be stored in a locked cabinet in a private office in the LPub College of Education. Researchers at the other participating institutions will not have access to video recordings in which you are identifiable.

You will have the option of reviewing all recordings in which you are identifiable (i.e., audio and video recordings, and photographs). You can request that we delete any such recording, or any part of it, and we will comply with this request.

We sometimes use identifiable recordings in academic presentations. In such cases, we will offer you the option of reviewing recordings in which you are identifiable prior to making the presentation. This option will be in effect both during and after your participation in the study.

Two faculty members in the LPub College of Engineering will have access to audio and video recordings and photographs in which you are identifiable. These researchers are subject to the same confidentiality agreement as are all other researchers associated with the Academic Pathways Study.

Risks, Stress, or Discomfort

Some people might feel discomfort or stress from the intensive nature of this research. Some people might feel that the research procedures are invasive.

Some people might feel concerned that confidential information will be used inappropriately. To guard against this, the research personnel at each of the four participating institutions will sign a confidentiality agreement that limits access to and use of data.

Some people might feel concerned that their academic and professional careers might be negatively impacted as a result of the fact that some faculty in the College of Engineering have access to identifiable data. We want to stress that you have the option of reviewing all recordings in which you are identifiable, and that you have the option to ask that all or part of any recordings be deleted. We also want to stress that you have the option of terminating any observation and/or recording at any time and for any reason.

Some people might feel uncomfortable when their responses to interviews are analyzed for the purposes of a study.

Some people might feel uncomfortable being observed for the purposes of a study.

Payments

You will be compensated in cash. Legally, you can be paid only if you are a US citizen, a legal resident alien (i.e., possess a “green” card), or have a work eligible visa sponsored by the paying institution. You will be compensated at the rate of \$175 per year, to be paid at the end of the Spring quarter. If you end your participation in the study early, you will be paid a pro-rated amount based on the duration of your participation.

Benefits of the Study

We hope that the results of this study will help the engineering education community to improve the design of curriculum and teaching methods in order to help students to succeed in becoming engineers. You might not benefit directly from this study.

Other information

Participation in this study is voluntary. At any time during the study you may choose to stop participating. A decision to stop participating will have no adverse effect on your course grades or your standing in school.

This is a three-year study. We will contact you at the beginning of the Fall quarter each year to review with you the objectives and procedures of the study and to obtain signed consent for your continuing participation.

If in the course of our observations we see evidence of suicidal tendencies or physical abuse, we are required to report this to appropriate authorities. All other identifiable information about you will be kept confidential.

If in the course of our observations we recognize signs of unhealthy or dangerous behavior or psychological states, we will offer you information on where you can go to receive treatment.

The following groups may need to review study records about you: Institutional oversight review offices at the research site, LPub, or state; and federal regulators.

Termination of participation:

As stated above, you are free to terminate your participation in this study for any reason and at any time. Under certain circumstances, it might be necessary for the research team to terminate your participation. Below are the conditions under and procedures by which this might occur:

If you leave Large Public University for any reason, including illness, transfer to another institution, etc., your participation in the study will be terminated.

Our study is focused on engineering education, and we are accordingly recruiting subjects who display intent to major in engineering. We expect that some subjects might decide to major in a subject other than engineering. Such cases are quite relevant to the goals of our research, and we will as a result continue to include such subjects in our research for a period sufficient to capture the subject's initial transition out of engineering. We expect this period to be at least one quarter and for up to a full academic year. We will terminate the subject's participation in the study after this point.

It is possible that you might, for a variety of reasons, become unwilling or unable to participate consistently in study activities, such as interviews and observations. In cases in which we have been unable to you consistently in study activities for a reasonable period of time, which we take to be approximately one month, we will approach you to inquire whether you wish to continue your participation. If you wish to continue, we will attempt to work out a satisfactory participation schedule. If after this point we continue to be unable to consistently engage you in study activities, we reserve the right to terminate your participation. Please note that termination of subjects for these reasons is an undesirable outcome for the study, and will be done only as a last resort.

If you have read this form and have decided to participate in this project, please understand that your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. You have the right to refuse to participate in studies involving a particular method. You also have the right to refuse to answer particular questions. Your individual privacy will be maintained in all published and written information resulting from the study.

At the conclusion of your participation in the study, we will ask for permission to re-contact you should we wish to use identifiable recordings of you in public presentations.

SUBJECT'S STATEMENT

The study described above has been explained to me. My willingness to participate is indicated below. (Please check appropriate box.)

I do not wish to participate. I do not wish to participate in this study. In order for us to ensure that you will not be contacted again, please provide your name here: _____
(Please do not read any further. Thank you for your time and consideration.)

I wish to participate. I voluntarily consent to participate in this study. I have had an opportunity to ask questions. I give permission for the study team to use my responses in research. I understand that future questions I may have about the research or about my rights as a subject will be answered by one of the investigators listed above. (Please proceed to the following items 1-6.)

1) I give consent for my academic records to be used for research purposes in this study.

Please initial: _____ Yes _____ No

2) I give consent to be interviewed during this study. I understand that these interviews will be audiotaped, and I consent to this. I understand that I will have the opportunity to review and edit these audiotapes. I also understand that these audiotapes will be retained by the researchers until December, 2012.

Please initial: _____ Yes _____ No

3) I give consent for the responses I provide during interviews and surveys to be used for research purposes in this study.

Please initial: _____ Yes _____ No

4) I give consent to be observed during this study. I understand that I can decline to be observed at any time and for any reason, including after an observation has begun. I understand that some of my activities will be audio taped, video taped, and/or photographed, and I consent to this. I understand that I can, at any time and for any reason, request that audio and video recordings be terminated. I understand that I will have the opportunity to review and edit these tapes and photographs. I also understand that recordings and photographs will be retained by the researchers until December, 2012.

Please initial: _____ Yes _____ No

5) I give consent for audiotapes, videotapes, and photographs resulting from my participation in this study to be used in academic publications and presentations. I understand that I will have the option of reviewing such materials before they are presented publicly.

Please initial: _____ Yes _____ No

6) I give consent for samples of my written coursework to be used for research purposes in this study.

Please initial: _____ Yes _____ No

7) I give consent for an interview to be conducted over the phone. I understand that this interview will be audio-recorded.

Please initial: _____ Yes _____ No

I have read the above and give my consent to participate in this study.

NAME _____ **SIGNATURE** _____

DATE _____

The extra copy of this consent form is for you to keep.

cc: Participant
Investigator's file

Ethnographic Consent Form (rev. 5/20/2008)

**LARGE PUBLIC UNIVERSITY
CONSENT FORM
ACADEMIC PATHWAYS STUDY, OBSERVED GROUP**

[list of investigators and contact information]

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Please initial: _____ Yes _____ No

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Please initial: _____ Yes _____ No

3) I give consent for the responses I provide during interviews and surveys to be used for research purposes in this study.

Please initial: _____ Yes _____ No

4) I give consent for audiotapes resulting from my participation in this study to be used in academic publications and presentations.

Please initial: _____ Yes _____ No

5. I give consent for an interview to be conducted over the phone. I understand that this interview will be audio-recorded.

Please initial: _____ Yes _____ No

I have read the above and give my consent to participate in this study.

NAME _____ **SIGNATURE** _____

DATE _____

The extra copy of this consent form is for you to keep.

cc: Participant
Investigator's file

Observed Group Consent Form (rev. 5/20/2008)