

**THE ALL MIGHTY AND POWERFUL
CAREER-SHAPING
“INTEREST PAPER”**

IT COULD SIGNIFICANTLY CHANGE YOUR LIFE
IF DONE PROPERLY, IT WILL!

TAKING CONTROL OF YOUR LIFE & CAREER FROM DAY 1!
PLAN YOUR LIFE OR SOMEONE ELSE WILL PLAN IT FOR YOU!

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*“Preparing engineers today for tomorrow’s grand challenges...
... creating tomorrow’s leaders, researchers and innovators ...
... continued Academic Success & Professional Development (ASAP) ...
... cutting-edge projects...
... Participate in the ongoing technological revolution.”*

Updates: 9-30-16; 10-1-16, 11-13-16, 2-7-17

INTRODUCTION: PURPOSE OF INTEREST PAPER

The purpose of the interest paper is multifold:

- (1) *TAKING CONTROL OF YOUR CAREER*. The interest paper is intended to help students take that first step toward taking control of their precious careers! We want students to take control of their careers from day 1...to plan their lives before someone else plans it for them!
- (2) *DISCOVERING, NURTURING, DEVELOPING TECHNICAL PASSIONS*. Fundamentally, the paramount purpose of the interest paper is to help students learn about something that they are interested in!...anything...but they have to start somewhere! They have to pick something. The sooner they pick, the better off they will be. (Please...don’t be afraid to pick something!)

More substantively, we want it to help students figure out what they are technically passionate about.

You do not want to begin this process 6 months prior to graduation or, even worse, after being on the job for 5 years! This is very sad to see.

You want to start working on this immediately...so you can properly plan! You want to do all you can to figure out how you'd like to participate in the ongoing technological revolution. It's your career. Take control of it!

We want you to **start discovering, nurturing and developing your technical passions as early as possible!** (Protect your grades, but don't postpone critical career development!)

NOTE ON HAVING MANY INTERESTS:

Do you have many interests? Some might think that they have to pick just one interest. Not so! Suppose that you are genuinely interested in the two very different areas: circuit design and design of small spacecraft (like nanosatellites). What should you do? You should still try to pick one area. How do you go about doing this systematically and carefully? Write an interest paper for each area. Of course, you will start with your slightly more favorite of the two areas. It is then important to ask what competencies are common to both areas. For example,

- Modeling
- Simulation
- Design
- Feedback and Control
- Use of MATLAB, C++ and other computer aided design tools to help with the above
- Manufacturing techniques

The point here is that even very different areas can have very significant overlapping subareas, competencies and tools. It is ok to learn about different areas. Use an interest paper to do so. Use an interest paper to turn whatever interest you have into a project that you can learn from - one that you can put on your resume; one that you can talk about when you are standing in front of that career fair representative.

- (3) **FOCUS YOUR THOUGHTS FOR THAT CAREER FAIR MOMENT.** We want the interest paper to help students focus their thoughts for that very important "career fair moment" where students are expected to convince a company hiring representative (e.g. manager, engineer, etc.) why that company should give them the internship and not give it to someone else. This moment can be very intimidating if you do not plan for it.

Please remember: **First impressions matter a whole lot!** (This paper will prepare you!)

- (4) **PREPARE FOR FUTURE EFFORTS.** The interest paper should serve as a critical vehicle for helping students decide on what technical areas to focus on as they move forward toward degree completion (e.g. subsequent coursework, projects, internship applications, etc.);

Future efforts should be planned. They should not be pursued randomly!

As my own great mentor advised me:

... ALWAYS ... "Plan Your Work.... and Work Your Plan!"

It is useful to remember that

LUCK = PREPARATION + OPPORTUNITY

An amazing opportunity can come before you, BUT if you are not prepared, you might not even notice it. (It stinks being clueless!) It has happened to me. Don't let it happen to you. That would be very sad - especially if it could have been that special opportunity in your life. The interest paper can help you prepare for opportunities (e.g. career fair, job interviews, projects, etc.)!

(5) *PICKING A FUTURE EMPLOYER.* Not to belabor the whole career fair point, but the interest paper can help students decide who might be your future employer.

We don't want students picking companies a few months prior to graduation. That is simply much too late! We want students to be thinking about companies at least 1-2 years prior to the first serious encounter with a company hiring representative.

It is not enough to know that FORD makes Cars, BOEING makes Airplanes, GOOGLE develops Search Algorithms, and IBM develops Enterprise Software. These are technological behemoths . They do much more than what lay-people generally associate with them. Use this interest paper to learn what companies really do and how you can fit in! It's your future!

(6) *SCHOLARSHIP CONTINUATION.* Use the interest paper to help you prepare for subsequent projects, career fairs, job interviews, internships, and ensure continued professional development so that scholarship continuation is easy to justify!

ONE FINAL NOTE:

The interest paper should be updated every semester to properly reflect the impact of

- courses, projects, clubs, reading, national and world trends, etc.

Use it to take control of your career. Use the interest paper to plan your life, before someone plans it for you!

ANOTHER FINAL NOTE:

You don't have to use everything in this silly outline!

We realize that you are still figuring out lots of stuff.
We don't expect you to have answers to everything in the outline.
Just do your best.
This will pay off big time!

Please do not hesitate to contact me with your comments, opinions, observations, theories, suggestions, references, etc.

THE ALL MIGHTY AND POWERFUL CAREER-SHAPING

“INTEREST PAPER”

(1) **TECHNICAL AREA CHOSEN**

What technical area have you chosen?

(2) **IMPORTANCE OF THE CHOSEN AREA**

Why is this area important?

How does this area currently impact the nation? How does it currently impact the world?

FORWARD-LOOKING AREAS. Try to pick a forward-looking area – an area of national or global importance; e.g.

regenerative medicine (organ growth), personalized medicine, advanced materials, additive manufacturing, advanced wireless communications, cooperating robotic systems, artificial intelligence, space/underwater exploration, sustainability, renewable resources, energy harvesting, biofuels, smart grid, driverless or driver assisted vehicles, electric and hybrid vehicles, internet of things (IoTs), cloud computing, parallel and distributed sensing-communications-computing-decision making, cognitive computing, big data, food-energy-water (FEW), security, embedded systems, etc.

Traditional engineering disciplines include:

Aerospace Engineering, Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Science, Computer Systems, Electrical Engineering, Industrial Engineering, Mechanical Engineering,

Please realize that the possibilities for any engineering discipline are VERY broad. Do not think “narrowly.” Realize that, today, engineering and scientific disciplines overlap one another considerably!

AN AEROSPACE AND MEDICINE OVERLAP EXAMPLE. Here’s a good example illustrating how areas can surprisingly overlap. An aerospace engineer that has mastered how to use computational fluid dynamics (CFD) to study high performance aircraft airplanes, jet engines, scramjets, advanced propulsion systems, and cars can use the same CFD tools to help doctors develop sensors to help detect cardiovascular disease! (i.e. How many BIG MACS we ate this week?)

How will your chosen area impact the nation and the world over the next 10-20 years?

Try to find data that shows anticipated trends.

Why are you passionate about this area? A little passion goes a long way, – especially when you are trying to convince someone to hire you! Alliteratively and substantively speaking, passion provides propellant for overcoming those inevitable proverbial pitfalls. A little “juice in the caboose” helps the locomotive stay on schedule.

(3) PROBLEM TO BE PURSUED

What problem (or family of problems) within the above area are you interested in pursuing?

Give a very clear concise problem statement that anyone can understand.

Again, try to pick a problem in an area that many people care about!

Please note that you don’t all have to pursue new forward-looking (cutting-edge) cancer therapy solutions or brain-powered prosthetics!

This interest paper is supposed to serve as a vehicle for you to learn about something you are interested in...to help you collect information...to help you navigate the area.

Lets suppose that you want to learn how to program in C++. Write some code to compute relevant stuff in a hot forward-looking area. Here is a case where the “packaging of your problem” could help a lot. Computing prime numbers may be of interest to a professor, but if you want to impress a FORD company representative, you may want to address something more relevant to them like collision avoidance!

(4) IMPORTANCE OF THE PROBLEM TO BE PURSUED

Why is your chosen problem important?

If the problem were solved, what would the impact be?

Being able to articulate this is very important, - especially if you are looking for Venture Capitalists to fund your planned entrepreneurial endeavors.

Cite publications that discuss the importance of the problem.

(5) RELEVANT CAREER PROSPECTS

What relevant companies (or laboratories), which you may pursue in the future, “play” (operate) in the above space?

Be specific.

What are each of the above relevant companies known for?

Remember:

FORD does much more than make cars,

BOEING much more than airplanes,

GOOGLE much more than search engines,

MICROSOFT much more than software,
HONEYWELL Much more than thermostats, etc.

AT&T: A TECHNOLOGICAL GIANT. Today, AT&T is known for phone service, but you must note that AT&T's research and development wing Bell Laboratories - unquestionably the greatest center for modern invention ever - is responsible for world shaping inventions, theories, tools and ideas like:

- the transistor (BJT and MOSFET), the laser, charged coupled device (CCD) imaging sensors, information theory, Unix operating system, C and C⁺⁺ programming languages, radio astronomy, detecting background radiation evidence for Big Bang Theory, vocoder (first speech synthesizer), electron diffraction, photovoltaic (solar) cell, Karnaugh maps for logic system analysis and design, first transatlantic telephone cable, error detecting and correcting Hamming code, modern cryptography, statistical process control (SPC) - the foundation for today's Six Sigma quality control, classical control theory, Bode and Nyquist plots, Karmarkar's algorithm for linear programming, optical router, and much more!

You may want to read the following book on AT&T Bell Labs:

Jon Gertner, "*The Idea Factory: Bell Labs and the Great Age of American Innovation*," 2013, ISBN 978-0143122791.

Learn what companies are primarily known for and then learn what other things they do. You will be VERY surprised!

Where are the above companies/laboratories headquartered?

Where do they have facilities, which are of interest to you?

Are they hiring in an area, which are of interest to you?

If so, have you applied for an internship/job? If not, when will you apply? It is important to apply before you meet a company representative at a Career Fair.

(6) APPROACHES: STATE-OF-THE-ART

What have others done to address the problem that you have chosen?

What approaches have been taken? Try to describe each approach or the most widely taken approaches.

What are the PROS and CONS of each approach?

(Technological, social, political, economical, environmental, ergonomic, physiological, etc.)

There are many relevant things that you can think about. Being keenly aware of this is very important, but just a first step. Thinking deeply about critical issues

and the associated tradeoffs (some acceptable, some not acceptable) is much more important. (We're getting deep now!)

You certainly need to try to cite publications that discuss the PROS and CONS of the approaches that have been taken.

(7) YOUR APPROACH TO THE PROBLEM

What approach (or approaches) do you plan on pursuing?

Note:

You need not have something NEW!!!

For example, you can simply compare different approaches systematically!

This is something we can always do. You are not expected to win a Nobel Prize for the work proposed in this Interest Paper. (Not yet!)

The approach (or approaches) that you are taking may not be entirely your own. It may, for example, combine several approaches. Or maybe, you just want to carefully compare several approaches that have already been taken by other investigators! This is a great way for anyone to start out. More fundamentally, it is something that we can all do!!

Remember:

This is supposed to be a learning experience for you!

Whatever might apply to your approach, please cite relevant publications.

(8) RATIONALE FOR YOUR APPROACH

Why are you taking the above approach?

Reasons are important! Why? They form the foundation for what is to be pursued, built or created! While demanding good reasons, you should not unjustly discard compelling hunches.

What are the PROS and CONS vis-à-vis those associated with current or prior approaches.

The entrepreneurially minded might ask (MUST ask): How does the approach to be taken compare with that of its most likely competitor?

Citing relevant publications here in order to support your rationale is also very important.

(9) RISK-REWARD ASSESSMENT

What are the chances for success?

Why?

What will you gain by pursuing the above?

What are the chances for failure?

What obstacles do you foresee? Do you possess the necessary background or skill set?

What are the obstacles? (What don't you know? What resources are you lacking?)

How do you plan to address each obstacle?
If you pursue the above, what is the worst possible scenario in terms of your career?
In most cases, the downside is not too bad at all. Why? Here's why:...

Note:

We fundamentally believe that

if you choose a decent problem and you give it **“all you got”**
(without sacrificing your GPA), then there should be no regrets...
...actually, you'll have lots to show for your efforts; i.e. the upside will be great!

...even if you change areas in a short period. Why?

This is because we are (absolutely) certain that

the skills you will learn (e.g. how to conduct a literature review, how to summarize relevant references/papers, identify trends, analyze, programming, etc.) in aggressively pursuing any substantive area and problem will be directly transferrable to your next area and problem.

**Note: Engineers are expected to change jobs/areas roughly every 5-7 years....
...you must start preparing for this now!
...Don't be afraid. It could be lots of fun...especially if you plan ahead...**

“Today, the average person changes jobs ten to fifteen times (with an average of 12 job changes) during his or her career...The Bureau of Labor Statistics (BLS) reports that people born between 1957 and 1964 held an average of 11.7 jobs from ages 18 to 48.”
See 7-28-16 article by Alison Doyle:

<https://www.thebalance.com/how-often-do-people-change-jobs-2060467>

Also remember:

Learning what you don't want to pursue is also VERY useful!
(But never give up without giving it your all!)

The Terrible Biology Teacher Story (Message: Don't let this be you.)

“I had a crappy biology teacher and so I no longer wish to go to medical school and become a surgeon.”

**Never let one bad experience (or bad “apple”)
change your precious dreams.**

This is one of the worst things you can do in your entire life! I've see it happen far too often.

(10) PREPARATION TODATE

What in your past has prepared you for the above endeavor?

Be specific....

Don't forget current and prior

coursework,
working in your garage,

any project experience...learn to document, explain and sell your project experience,

e.g. Fulton Undergraduate Research Initiative (FURI):
<https://engineering.asu.edu/furi/>

FURI can really change your life!

Like anything....what you get out critically depends on what you put in!

NASA Space Grant

Western Alliance to Expand Student Opportunities (WAESO)

special reports or papers

(LIKE THIS INTEREST PAPER!!!

YOU CAN CALL IT A RESEARCH PAPER!!!

We use to call the interest paper a "research paper," but the word research really "freaks" some people out...gives them the "hives." That's really too bad. Why?

We all have to do research!

...research when we buy a car,
 when we buy a house,
 when we buy components/materials for a project, etc. ...

We all have to do research whenever we buy or search for anything that we really care about! Right?

Don't get hung up on a word or two....always look for the underlying substance.

clubs,
student/professional organizations,
community service,
tutoring,
reading, **READING**, **READING** (e.g. critical publications, books, articles, etc.),
etc.

Discuss how each has prepared you!

Note:

Reading to inform yourself about an area can make all the difference when you are called upon to tell your “story ” at a Career Fair!

The all mighty and powerful Interest Paper can play a critically important role in shaping what you say to a company representative that is eager to hear something relevant...not the same old “I want or need experience.” These company reps hear a lot of “junk” during a career fair...stuff that is not useful...stuff that anyone can come up with. All of us will do this to some extent. But, with a little preparation, we can show that we’ve done some useful relevant homework. With a little preparation, we can really stand out in a positive way! This is what you need to do in order to get that “treasured interview.” In fact, you should always ask for an interview! Get used to asking. If you don’t ask, they may think that you are not adequately interested.

**IT IS ESPECIALLY IMPORTANT FOR YOU TO SUBSTANTIVELY CONNECT
COURSEWORK TO YOUR TECHNICAL AREA OF INTEREST!**

**FROM SEMESTER TO SEMESTER, YOU SHOULD BE ABLE TO
ESTABLISH MORE “CONNECTIONS!”**

For Example:

After differential equations, you can use them to describe the physics of what you are working on.

After calculus, you can try to maximize (optimize) stuff! ...minimize fuel, waste, etc.

After a numerical methods class or a programming class, you can use the computer to really help you solve problems!

After linear algebra, you can use matrices to describe relevant equations in your area!

Many students feel that their coursework has nothing to do with real-world engineering. Don’t become one of these people.

If you do, you will be locked out of some of the coolest cutting-edge areas. Don’t let this happen.

Always try to connect your coursework to your area of interest. Use the stuff that you have learned in the classroom!

You will be able to make more “connections” as you progress from semester to semester.

If you are having problems making “connections,” a mentor can help you greatly with this. She or he can help you fill in some of the technical gaps between your coursework and your area of interest. Mentors can help with lots more too. They can make you aware of very critical items that you weren’t even thinking about. Such advice can save you years of agony! Wandering around in the “technical engineering wilderness” (without focus and essential perspective) can waste considerable time. It can be downright hurtful!

(11) **SPECIAL RELEVANT SKILLS**

What special relevant skills do you possess?

Examples:

Ability to work independently

Ability to work in teams

Ability to lead

Ability to communicate

Ability to write

Ability to give technical presentations

Ability to break down complex problems into simpler solvable problems!

You must all try to learn to do this!

Foreign Languages (verbal, written)

Computer languages and tools (e.g. C++, Java, Python, MATLAB, Simulink, toolboxes, ANSYS, NASTRAN, VHDL, etc.)

Other skills

Your preparation in (10) and special skills in (11) are very important (i.e. relevant) when you are about to tell your “story” to a GOOGLE or AMAZON representative at a career fair...BE PREPARED!

ALL of the above is also important for applying for projects as well as internships and jobs! You want to make a connection...give them a reason to want you!

(12) **REQUIRED RESOURCES AND BUDGET**

A list of required resources is especially useful when applying for a paid project (FURI) for which a budget is required.

Required resources can include any of the following:

conference papers, journal papers, articles from professional society magazines, undergraduate theses, MS theses, PhD theses, presentations, books, software, hardware, electronic components, laboratory facilities, chemicals, consultant, industry representative, professor, other students, student clubs, professional organizations, etc.

Your budget should try to list each item and what it is likely to cost. Specify relevant URLs when relevant. If an estimate is given, describe how it was arrived at.

(13) **TIMELINE**

Use a Gantt chart to provide a timeline indicating major milestone dates.

When planning a project, try to decide on the big milestones first. This is not easy because it forces you to think about the big picture.

Message:

Specifically, try to cite publications that address the pros and cons of the ideas that you are interested in exploring.

Do you need to “deeply read” every publication you cite? No way!

Here is what I recommend.

Learn how to read strategically.

What does “*STRATEGIC READING* mean?”

Gather 30 or so papers in an area that you are passionate about; e.g. cooperating robots.

Don’t plow into them and read every word!

This is the optimally wrong thing to do.

(Unfortunately, it is what most would think they should do!)

Such an approach could take weeks or months!

Instead, for each paper I want you to examine the following:

- title, authors, date of publication,
- abstract, introduction and conclusion

This is what I refer to as “strategically reading.” These, generally speaking, are much easier to digest than the very “technical inners” of a paper. Examining the above is far less work than reading those “technical inners.” Reading those “technical inners” too soon can significantly dampen your passion, creativity and openness to the area. Getting into those details too soon can completely kill the interest you had! I have seen this happen to many! This is very sad. Examining the above can be far less taxing on the mind! When viewed as a genuine exploratory exercise (like “trying to find the buried treasure”), it can be very exciting, fulfilling, enlightening and supremely informative!

In fact, after “strategically reading” 30 or so papers you begin to understand

- What critical questions have been asked?
- What approaches have been taken?
- What worked?
- What didn’t work?
- Who did what?
- When was it done?
- How did the area evolve?
- What are most pressing questions being asked?
- etc.

After doing the above, you start becoming somewhat of an expert! Isn’t this precisely what you want?

After doing the above, and only after doing the above, you can choose the 5 most important papers and then dive into their “technical inners.”

Finally, it is important to note that knowing your references well can help you significantly when you are at that career fair and trying to answer where you learned about a specific technology, process, software or hardware platform being used at the company. You want to show some (at least minimal) mastery of relevant literature. You want to show them that you have clearly done your homework. This will permit you to stand out from the rest of the potential interns in a positive manner!

HOW DO YOU CORRECTLY CITE REFERENCES?

The following can help you with this:

<http://www.ieee.org/documents/ieeecitationref.pdf>

<http://www.ijsst.info/info/IEEE-Citation-StyleGuide.pdf>

There are many tools that can help you with citations. You may want to learn to use some. Go to the ASU Noble library. They can help you get started!

<https://lib.asu.edu/noble>

ADDITIONAL SUGGESTIONS

- (1) Interest paper should be at least 5 pages including relevant figures and pictures.
- (2) References should add another 1-2 pages.
- (3) Use short simple sentences.
- (4) Exercise “technical muscle” when needed. This is especially important at a Career Fair. Show them that you have done your homework!
- (5) Always explain all technical terms that you are using. Don’t assume that people know the acronyms that you are using. Be reasonable! Know your audience!

If the reader/listener doesn’t understand you, then she/he may stop listening!

- (6) Give supporting references (e.g. conference papers, journal papers, books, theses, presentations);
- (7) Learn to use library and professional organization search resources to find your references;
- (8) Please cite each reference properly!
- (9) Insert suitable figures and pictures when relevant. Clearly specify where the figure/picture was obtained!

Always give credit when you use anyone’s work!

Please send comments and suggestion to aar@asu.edu

Thank you very much!

TAKE CONTROL OF YOUR CAREER!
PLAN YOUR LIFE BEFORE SOMEONE ELSE DOES!

A.A. Rodriguez
<http://aar.faculty.asu.edu/>

OUTLINE FOR YOUR IMPORTANT FACE TO FACE

“CAREER FAIR PLEA”

A STEP TOWARD GETTING A COOL JOB!

We want all of our ENG METS ASAP ACADEMY program participants to attend a career fair as early as possible. ASU Fulton has two career fairs per year. One during the Fall (typically September) and one during the Spring (typically February). Please try to attend both. Please prepare. Over 100 companies typically attend - looking for new interns and new hires. It is very impressive. You will learn a great deal!

Remember:

If you get an internship at a company, it is generally because they want to check you out for permanent employment (a long term relationship).

How can the all mighty and powerful internet help you with your career fair plea. Lets see how.

The following is a basic outline for a generic career fair plea.

Your standing before a company hiring representative from a company that you have been reading about and that you want an internship with....and hopefully you would like a permanent position with the company in the future.

Here are some of the things you should be thinking about.

- (1) Why did you choose this company?
- (2) What areas and problems have you targeted that are of interest to the company?
- (3) What position or positions are you are applying for? Tell them that you have applied!
- (4) Which of the positions would you prefer?
- (5) Why? Don't say that you want or need experience...most say this...try to avoid statements that everyone will use!
- (6) What have you done to prepare yourself for the position?

All of you have something to say.

You just need to realize this and practice enough so that you demonstrate confidence.

Don't be ashamed to say:

...while I have not had an internship in this area, I have had relevant courses in...,
...I have read about the processes/software/etc...that you use...
...I know you use yyyy and zzzz...
...this is something that I've read a great deal about...
...and would be very eager to pursue aggressively as an intern if given the chance...

You get the idea...right?

(7) What relevant skills do you have that the company would be interested in?

A POSSIBLE CAREER FAIR PLEA OUTLINE

The following might be a useful draft outline or your career fair plea.

1. Name
2. Major
3. GPA
4. I have Applied for the Positions You Have Advertised
5. Here is My Resume and Cover Letter
6. Why Did I Choose Your Company?
7. What Am I Interested In?
8. I Know something About What Your Company Works On
9. Previous Work Experience
10. Questions on Work Done By Company
11. What Else Does Your Company Work On?
(Ok to ask after you've demonstrated some understanding of what they do.)
12. Questions on Company Benefits
 - What Opportunities Does Your Company Provide for Continued Technical Growth?
 - Does Your Company Encourage Attendance of Conferences?
 - Does Your Company Provide Support for Graduate School?

CAREER FAIR PLEA SURVEY

1. What else might you need guidance with?
2. Getting feedback on your own personalized career fair plea write up?
3. Practice giving career fair plea in private?
4. Practice giving career fair plea in front of students?
5. Practice giving career fair plea in front of faculty?

MY REFERENCES FOR THIS OUTLINE

- (1) https://en.wikipedia.org/wiki/Bell_Labs
- (2) Jon Gertner, "*The Idea Factory: Bell Labs and the Great Age of American Innovation*," 2013, ISBN 978-0143122791.
- (3) Alison Doyle, 7-28-16 article, <https://www.thebalance.com/how-often-do-people-change-jobs-2060467>
- (4) IEEE Citation Reference: <http://www.ieee.org/documents/ieeecitationref.pdf>
- (5) IEEE Citation Style Guide: <http://www.ijssst.info/info/IEEE-Citation-StyleGuide.pdf>

INTEREST PAPER SURVEY

Date : _____

Full Name : _____

ASAP program ID : _____

Age : _____

Gender : _____

Ethnicity : _____

Year (1-4, graduate) : _____

Academic Class: HS Fr. HS Soph. HS Jr. HS Sr.
 CC 1styr. CC 2ndyr. CC 3rdyr.
 ASU Fr. ASU Soph. ASU Jr. ASU Sr.

Major : _____

Likely Minor (if relevant) : _____

CC Attended (if applicable) : _____

1. Have you worked on any projects? Yes No

1.1. If so, briefly describe each.

1.1.1. Project 1:

1.1.2. Project 2:

1.1.3. Project 3:

2. Have you done an engineering and/or cs internship?

Yes No Not Applicable

2.1. If so, briefly describe each.

2.1.1. Internship 1:

2.1.2. Internship 2:

2.1.3. Internship 3:

3. Have you already picked a technical area of interest? Yes No

3.1. If so, what is it? _____ :

3.2. How serious are you about this area?

Extremely Serious	Very Serious	Somewhat Serious	Slightly Serious	Not at all Serious
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.3. Are you interested in another area? Yes No

3.4. If so, what is it? _____ :

3.5. How serious are you about this area?

Extremely Serious	Very Serious	Somewhat Serious	Slightly Serious	Not at all Serious
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.6. Repeat the above for other areas you might be interested in. (No more than 5 areas)

4. Assuming you have a current (primary) interest area, to what extent have each of the following influenced your choice?

	Extremely Influential	Very Influential	Somewhat Influential	Slightly Influential	Not at all Influential
4.1. ASU faculty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.2. CC faculty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.3. A prior project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.4. An interest paper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.5. High school teacher or counselor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.6. Professional organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.7. Club	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.8. An engineer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.9. A scientist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.10. Seminar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.11. Parent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.12. Sibling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.13. Friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.14. Reading	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.15. Media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.16. Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.17. Something else?

5. Have you ever done an interest paper before? Yes No

5.1. How many times? : _____

5.2. If so, did the paper help you figure out what you want to do in the future?

Yes No

5.3. If not, why?

6. How useful do you think this interest paper outline will be (or has been) for you?

Extremely Helpful	Very Helpful	Somewhat Helpful	Slightly Helpful	Not at all Helpful
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.1. Why?

6.2. Why not?

Not enough detail? Not clear enough? Too much to do? You don't know enough?

6.3. Which section need more details?

7. Quantify how hard each of the following were to write:

	Very Easy	Easy	Somewhat Easy	Hard	Very Hard
7.1. Technical Area Chosen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.2. Importance of Chosen Area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.3. Problem to be Pursued	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.4. Importance of Problem to be Pursued	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.5. Relevant Career Prospects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.6. Approaches: State-of-the-Art	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.7. Your Approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.8. Rational for your Approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.9. Risk-Reward Assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.10. Preparation Today	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.11. Special Relevant Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.12. Required Resources and Budget	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.13. Timeline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.14. Future Plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.15. References	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. How helpful were the additional suggestions?

	Immensely Helpful	Very Helpful	Helpful	A little Helpful	Not Helpful
8.1. Interest paper should be at least 5 pages including relevant figures and pictures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.2. References should add another 1-2 pages.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.3. Use simple short sentences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.4. Exercise “technical muscle” when needed. This is especially important at a career fair. Show them that you have done your homework	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.5 Always explain all technical terms that you are using. Don’t assume that people know the acronyms that you are using. Be reasonable! Know your audience!	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.6. Give supporting references (e.g. conference papers, journal papers, books, theses, presentations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.7. Learn to use library and professional organization search resources to find your references;	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.8 Please cite each reference properly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.9 Insert suitable figures and pictures when relevant. Clearly specify where the figure/picture was obtained	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Will the interest paper help you figure out what you want to do in the future?

Yes No

9.1. If so, why?

9.2. If not, why?

10. Did the interest paper help you decide what you might be interested in pursuing?

Yes No

10.1. If so, why?

10.2. If not, why?

11. Did it help you figure out how to proceed?
 Yes No

11.1. If so, why?

11.2. If not, why?

12. What can we do to help you figure out what you would like to do?

	Need much more	Need More	OK as it is	Need Less	Need Far Less
12.1. Discussion on ongoing technological revolution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.2. Discussion on areas of National Importance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.3. Discussion on choosing a technical area of interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.4. Mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.5. Faculty Speakers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.6. Industry Speakers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.7. Student Speakers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.8. Graduate Student panels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.9. Faculty Panels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Do you think that you will take this interest paper seriously?
 Yes No

13.1. If so, why?

13.2. If not, why?

14. Do you think that all engineering students should do an interest paper?
 Yes No

14.1. If so, why?

14.2. If so, when?

Freshman Sophomore Junior Senior
 Graduate School All

14.3. If not, why?

15. How did the interest paper help you with your “career fair plea?”

16. How could we improve the Interest Paper Outline? Any suggestions?

17. ANY OTHER COMMENTS OR SUGGESTIONS?