Chemical and Materials engineers are process engineers who design, develop and operate what are often large-scale systems or plants to produce most of the common commodities, products and materials that we use in daily life. The range is vast and includes fuels, polymers, metals, ceramics, minerals, electronic materials, forestry products, biomaterials, pharmaceuticals, processed foods and dairy products such as cheese and milk products, and fermented beverages such as beer and wine. Important emphasis is placed on the evaluation of environmentally responsible and economically viable options within a “total systems” approach.

Career opportunities are exciting and diverse as the discipline underpins most other fields of engineering. Chemical and Materials Engineering graduates are in high demand in today’s hi-tech world, and those from the University of Auckland are employed in senior positions in major national and international corporations. Career options are numerous with vocations such as production management, product and technical development, plant design, control engineering, environmental engineering, materials research and a wide range of other opportunities in fields such as nano-materials, alternative energy sources, water treatment and waste minimisation.

Applications Sought for Prestigious A. F. Downer Memorial Scholarship

Downer EDI Works is proud to provide Auckland and Canterbury University Civil Engineering Students with the opportunity to apply for the prestigious A. F. Downer Memorial Scholarship for the 2009 year. Some great reasons why you should apply for this scholarship...

- Two $10,000 scholarships will be awarded in 2009
- Paid summer work
- Access to advice and/or guidance from a suitably qualified mentor from within Downer EDI Works.

Established in 1986 in recognition of the contribution of Arnold Fielder Downer (C.B.E.) to the engineering profession, and in particular to the field of civil engineering, the Scholarship has supported a number of students in gaining their degree in Bachelor of Engineering and going on to becoming registered engineers.

Shashi Patel recently joined Downer EDI Works after completing his studies towards a Bachelor of Engineering (Civil) at Auckland University in 2008. Shashi was a recipient of the A.F. Downer Scholarship for three years. As a large employer with the civil infrastructure sector, Downer EDI Works is an excellent company for Shashi to launch his civil engineering career with. Downer EDI Works provides opportunities to gain practical site experience, international experience and exposure to a wide variety of potential career pathways.

"Becoming a recipient of the A.F. Downer Memorial scholarship not only meant receiving financial assistance and holiday work during university but also graduate employment. My holiday work saw me working with the Auckland technical services team to construction sites, the Takanini pre-cast yard and the Auckland asphalt plant, " noted Shashi.

Applications for the A. F. Downer Memorial Scholarship close 31 March 2009. If you are interested in finding out more about this scholarship, go to www.work4works.co.nz
SCHOLARSHIPS - MONEY AND SUMMER WORK!

The Faculty of Engineering has set up numerous scholarships sponsored by companies. Not only do they represent prestige for the awarded students but they are also an excellent way for students to establish a relationship with the sponsor company, get to know the company and the type of work they are involved in and maybe even arrange summer work.

Overall, scholarships offered through the Faculty reward merits of students; academic achievement but also merit for a strong community involvement or the merit of students managing financial struggles while studying. So, every student is being given a chance and the Faculty highly encourages all students to apply for scholarships.

Scholarship application forms may require attachments like a curriculum vitae, a written page on a specified topic and/or financial details. Students should give themselves enough time to prepare their attachments to be handed in with their application form by the specified closing date.

There are currently on offer approximately 40 named scholarships run through the Faculty of Engineering. Many of these scholarships have application closing dates on the 31st of March and the 31st of July while some have closing dates at other times throughout the year.

You can begin your scholarship search by visiting the University’s scholarship webpage at HYPERLINK “http://www.auckland.ac.nz/scholarships” www.auckland.ac.nz/scholarships. From here you can search for specific University scholarships for their level of study, download regulations and application forms for any scholarship offered through the University, as well as link to external scholarship information. The Scholarships Office also updates this webpage with news on any new scholarships that may be added throughout the year and any closing date extensions and provides valuable information on how to apply for scholarship.

For more information on scholarships for engineering students contact:

Renee Girven
Scholarships Adviser
Faculty of Engineering
Phone: +64 9 373 7599 Ext. 85347
E-Mail: r.girven@auckland.ac.nz

Note
- In the regulations for each scholarship it should mention whether you can expect the scholarship to be awarded in that year or the next year. Please be aware that some scholarships which close around July or later may not be awarded (paid) until the following year.
- If you are shortlisted for any scholarships, you may be required attend an interview.
- It helps to know some information about the sponsor of the scholarship so always research the company before attending interview.
- Book in and attend an interview workshop with the Careers Centre in the Clocktower before going to a scholarship interview.

SCHOLARSHIPS FOR STUDENT ENGINEERS

$130,000 of Scholarship money for all specialisations and Part 1 students is available this year.

Applications must be in by March 31st 09. Don’t miss out. Make sure your application is in time.

Follow the scholarship link on the Faculty website home page to find out which scholarships you can apply for - or contact Renee Girven r.girven@auckland.ac.nz
Gentrack – A Knockout Place to Work!

Gentrack is a leading software business based in the heart of Auckland, employing over 120 technical and business experts to develop and support its flagship software products – Gentrack Velocity and Airport 20/20. The Gentrack business has a heritage spanning 20 years, working with leading energy and airport businesses such as Genesis Energy, Vector, Contact Energy, Meridian Energy, JFK International and Melbourne Airports.

The Gentrack business is growing every year with the success of its products in local and global markets, and we are always looking for software engineering graduates with the agility, ability and attitude to make it happen at Gentrack.

Fast pace at Gentrack

Life at Gentrack is fast paced. I started at Gentrack in early 2008 as a fresh graduate working on the operations side of the Gentrack utility business. Soon after starting, I was given the opportunity to join the Airports team where I still enjoy working today. My role is varied and every day has its particular challenges whether it is the implementation of new software solutions or an urgent support call from a client on the other side of the world – you never find yourself short of something to do at Gentrack!

It’s not all about software programming

Working at Gentrack is more than just software programming. You get the opportunity to interact and communicate with clients all over the world and learn the industry from their perspective. I’ve also been fortunate to acquire new technical skills such as additional software languages and have gained confidence in my abilities to handle large projects through the opportunities given to me.

World class experiences

I’m currently working on a long term project involving the implementation and development of operation and management solutions for airports under the Finland Civil Aviation Administration. This project has given me the opportunity to grow as an engineering graduate, sharpening my project management and technical skills learnt during the course of my Engineering degree and applying them within a real business situation.

Going places

It’s great to know that you can develop a career with Gentrack that will take you places. Your goals are discussed regularly and you are always free to express your views. There is a strong support network at Gentrack – from day one you are tested with real responsibilities so it is good to know that support is always available if you need it.

Work Hard, Play Hard

While the Gentrack team works hard, we also like to play hard and the social activities organised throughout the year provide a good platform for networking and encouraging team work. I have been involved in a lot of the company’s social activities, playing for the indoor soccer team and participating in last year’s pool competition - and I always look forward to Friday after work drinks! The people are the best part of Gentrack. I’m glad to work with an intelligent, professional and fun-minded team who make every day at Gentrack fun and challenging.

SOME GENTRACK FACTS:

- Gentrack currently bills 85% of New Zealand’s gas and electricity
- Gentrack is used by 75% of New Zealand’s energy network utilities, managing data for 1.2 million electricity and gas connections
- Gentrack is used in over 40 utility sites worldwide
- Airport 20/20 is used in over 50 international airports worldwide including Finland and Terminal One at JFK International Airport
- Gentrack has employed Auckland Engineering graduates for over 10 years

More information on Gentrack and Graduate Opportunities is available at www.gentrack.com/careers.

Fook-Weng Chan, Electrical & Electronic Engineering Graduate, The University of Auckland. Airport 20/20 Systems Consultant
More Options, One Choice - Beca

If you are looking to kick-start your career with a company that gives you options throughout your career, Beca could be it.

Whether you are clear about the direction you want to go in, or would like to keep your options open, at Beca you know that the opportunities will be there to shape a career that suits you.

A career is not only about the discipline that you choose to study and then pursue beyond graduation. There’s a whole raft of other aspects you need to consider. As a Beca graduate, you are continually presented with all kinds of opportunities that combine to create the career you want to have.

For example:

• You are likely to find out about what happens in other disciplines, and how they all come together on a project, by working as part of a multi-disciplinary team,
• Chances are, you’ll work on many interesting projects, and we encourage you to put your hand up if you hear of one you’d particularly like to be involved with,
• Your technical specialisation may change over time, as you learn more about what options are out there,  
• Sometimes there are opportunities to work on an overseas project, or even relocate temporarily or permanently,
• We can support you if you choose to work towards professional registration,
• There are a range of career paths (other than as a technical expert) available to you. You may find that you’re good at team management, or project management, or you may enjoy pursuing opportunities in a business development role,
• Through our mentoring programme you will get the opportunity to be guided by a more experienced colleague,
• You may be interested in getting involved in an industry organisation. Some of our grads are helping to educate school students about the engineering profession and career opportunities within it.
• Some grads even find time to use their skills for volunteer work!

The upshot is, if you are proactive, the possible outcomes could be endless!

Graduate Development

Graduates at Beca find that their more senior colleagues are happy to share their knowledge and experience to speed up the learning process. We also have a programme of initiatives in place to support you in developing the broad range of skills and experience necessary to become a successful consultant in your technical field – skills that you’ll be able to apply throughout your career. These include six monthly performance development discussions, graduate conferences, mentoring, site visits and graduate group sessions with guest speakers.

The fun stuff

Beca has an active and varied social scene, and most offices have a social club that organises a range of activities. Some of our current grads have commented on how active the Social Club is and how much better the social scene is than they were expecting!

Not only do these events make a change from work – they are a great way to get to know your colleagues better and meet people in other parts of the business.

Be as active and involved as you want to be with plenty of social and sporting events to choose from.

What the grads say

“Graduates at Beca are provided a great start to their career with continuous training opportunities, responsibility and a great environment to initiate networks with other professionals.”
- Gemma Henry, Planning, Auckland

“The strong social atmosphere here made the transition from university to working life much easier.”
- Katie Shering, Civil

“The fact that I was a fresh graduate without much experience did not hold my team back from assigning responsibilities and tasks. The trust and confidence my team had in my capabilities were encouraging, but challenging as well.”
- Richard Edwin, Electrical and Controls
Having a plan makes your decision easy
Craig Mountfort is a man in a hurry. When you’re starting on a second career, you don’t have time to waste. Craig finished his BE at the University of Auckland 2 years ago and chose PDP as the right place to further his career goals.

I came to engineering after trying other career options, so now I’m pretty focused on what I want to achieve. My advice to students is to have a plan. Think about where you want to be in 10 years time. Having a clear goal in mind, will help you make the right decision about your employment now. I want to be a lead design engineer in 10 years. You might want to be working overseas, have a lifestyle close to the beach or be a construction manager, on-site. For example, if you want to work overseas, then a large international company might suit you. Because I had a completely different career before doing my engineering degree, I’m keen to make up for lost time. Although I hummed and haa’d quite a bit before deciding, I chose PDP because I felt there would be less hand holding and I would get more responsibility - faster.

It’s worked out well and I’ve had the opportunity to work on all aspects of a project. This includes project management, client liaison and liaising with drafting people, as well as working on the design. This is important to me because the further you go in your career, the more you get involved in management and client relations, as well as the technical aspects of projects.

What I’ve learned since working here is how to find out what the client really wants, how to gather the necessary research and to produce detailed designs on time and within budget. I’ve really enjoyed the responsibility, putting it all together and then seeing the finished product. Like most engineers I wanted to build things, as well as go out on site and work in the office. I’ve been able to do that here.

I’ve also had the opportunity to go on a 1 week training course in Surfers Paradise and attend conferences. There is lots of encouragement for us to have the experience of speaking at a conference and to start building your profile in the industry.

Apart from the work itself, I’ve enjoyed the camaraderie here. PDP is a medium size firm, so there’s a variety of people and good social events, like the ‘round Taupo race, the bach weekend and the ski weekend. The people here are really friendly and that’s always important too.
Opus International Consultants & Graduate Recruitment

“As all organisations adapt their operations in line with the current economic climate, we at Opus are well-placed to provide services to governments, local authorities and other organisations as they invest in infrastructure development. We continue to be 100% committed to developing our people to their full potential and we invest significantly in this.

Graduate and Engineering Cadet recruitment remains a key part of our growth. Our selection will be based around those with the qualifications and the attitudes who can be part of ensuring Opus remains a strong player in today’s challenging environment. With 81 offices globally, you will be joining a successful multi-disciplinary company with many opportunities ahead.”

Kevin Thompson, Managing Director

Opus & Sustainability

Opus has long recognised the importance of sustainability and in particular the four commonly defined areas of sustainability – environment, economic, cultural and social. As a good corporate citizen we are committed to our responsibilities in all these areas.

What we do and how we operate in this regard is equally applicable to where we work and to the projects we deliver. In 2007, a Sustainability Policy document was produced by the company and acts as a guiding document for implementing and delivering on this responsibility.

This discusses our obligations as a company in the years ahead and spells out what sustainability means for Opus. In essence it sets out the framework for how we will deliver on this policy. The main points of this framework are:

- To integrate environmental and social considerations into our delivery of professional services and achieve best practice sustainable solutions that meet or exceed environmental standards.
- To manage and reduce the negative impacts our internal operations may have on the environment and encourage the positive impacts we can have on the communities where we work.
- To provide sound corporate governance and ensure the financial and economic sustainability of the business for the benefit of all our stakeholders.
- To foster an environment where our staff are valued, take pride and enjoyment in working for a successful company, and where skills, knowledge and talent are proactively identified, nurtured and developed.

Opus’ co-ordination of the integration of our Sustainability Policy is the responsibility of Greer Lees. She states that Opus as a company is already demonstrating many aspects of the policy.

“The policy provides a framework and a vision for us to aspire to as a company,” says Greer. “It enables us to bring together and quantify the contribution we are making towards sustainability. This was substantiated when we were recently recognised for our state-of-the-art design of the new Manukau Police Station in South Auckland, which won the Govt3 Award for Sustainable Buildings. This not only put us...
Sustainable building design is inherent in our work and we also provide leading edge research in sustainable transportation operations. We have influenced local government thinking on their travel plan processes and the promotion of transport solutions.

We have recently prepared a greenhouse gas emission inventory for operations and maintenance activities for the recently formed Auckland Motorway Alliance (of which Opus is one of the partners). The inventory enables us to pinpoint the biggest polluters and enables us to draw up a realistic plan that focuses on the areas where emission reductions will have the most significant and immediate impact.

There is increasing demand for Environmentally Sustainable Design (ESD). We have appointed an ESD Design Leader and Steering Committee and more than fifty staff have undergone the New Zealand Building Council Green Star (environmental rating system) training. In addition, we are represented on the New Zealand Green Building Council technical and working groups.

**Careers at Opus**

Each year a significant number of graduates in civil, mechanical & electronic engineering, environmental planning, architecture, property management, science and other related professions join Opus. For more information about joining Opus’ Graduate Programme visit: www.opus.co.nz/careers
Graduate Profile
Michael Willson
Transportation Engineer

I first began working for Traffic Design Group in the Tauranga office while I was still studying at university. I really enjoyed the experience, the people I was working with and was surprised to arrive on my first day to find a large office with a new desk waiting for me. So when they offered me full time work as a transportation engineer upon finishing my degree I jumped at the opportunity.

I have since finished my degree and have been working in the Auckland office for the past 3 months. Since starting in Auckland I have been lucky enough to get stuck into several interesting projects that have let me “get my hands dirty”.

So far the jobs that I have been involved in with Traffic Design Group have included:

- Intersection design;
- Site inspections;
- Transportation assessment reports;
- Tendering for jobs;
- Car park layout design; and
- Communication with clients, planners, and architects.

One thing that I have quickly realised is the importance of good communication skills. Although this was always spoken about in the past I never realised how important it was until I started at Traffic Design Group. A large part of my day involves communicating with others in my office, clients, planners, and architects in order to come up with a solution that works for everyone.

So far I have found the job challenging in all aspects of my work. It is interesting to see how much of what you learnt at university is used and in some cases not used in day to day work. I think that my time at university has helped to teach me a way of looking at a problem and has given me the insight to come up with a creative efficient solution.

The team at Traffic Design Group are awesome and are a large part of the reason why I joined the company. Their doors are always open for any help or for a laugh.

Traffic Design Group are a strong supporting member of IPENZ with a large portion of the company being members themselves. This is very helpful for graduate engineers such as myself as there is no shortage of help when applying to become a chartered engineer. The company also places a strong emphasis on continued training. After only being at the company 3 months I already have an IPENZ course scheduled in a months time.

The company has a large social aspect to it. The Tauranga office has a “foosball” table which brings out the competitive spirit in the office over any smoko time or at typical Friday drinks. The social calendar is usually full with recent Christmas do’s and cocktail parties before the New Year and a fishing trip planned for later this month. There is also a social weekend planned for March where the entire company will gather in Napier. Some of the activities include golf, paintball, fishing, water parks and scenic tours.

The Auckland office is physically active with many people recently taking part in the Lake Taupo Cycle Challenge as well as an office indoor cricket team which play weekly.

Overall I have found my, so far, short time at Traffic Design Group both challenging and rewarding. It’s a fantastic job with plenty of opportunities. I have found it interesting to work alongside other professionals and interact with them to help come up with a solution. It is great to work with a team and see a solution you work together on come into play. Transportation engineering is a dynamic, complex job with a variety of challenges and I’m glad I’ve made the move to Traffic Design Group.